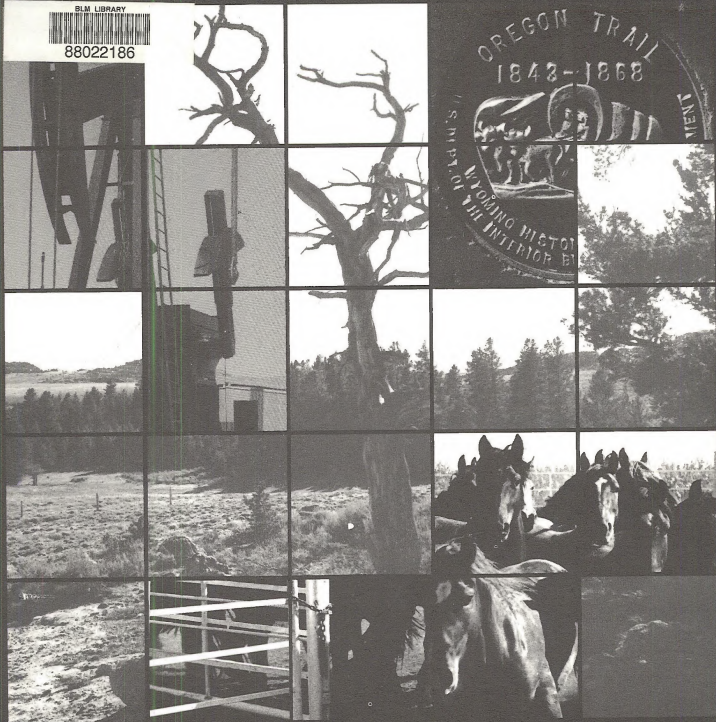


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# LANDER

# Grazing Supplement

## Final Environmental Impact Statement

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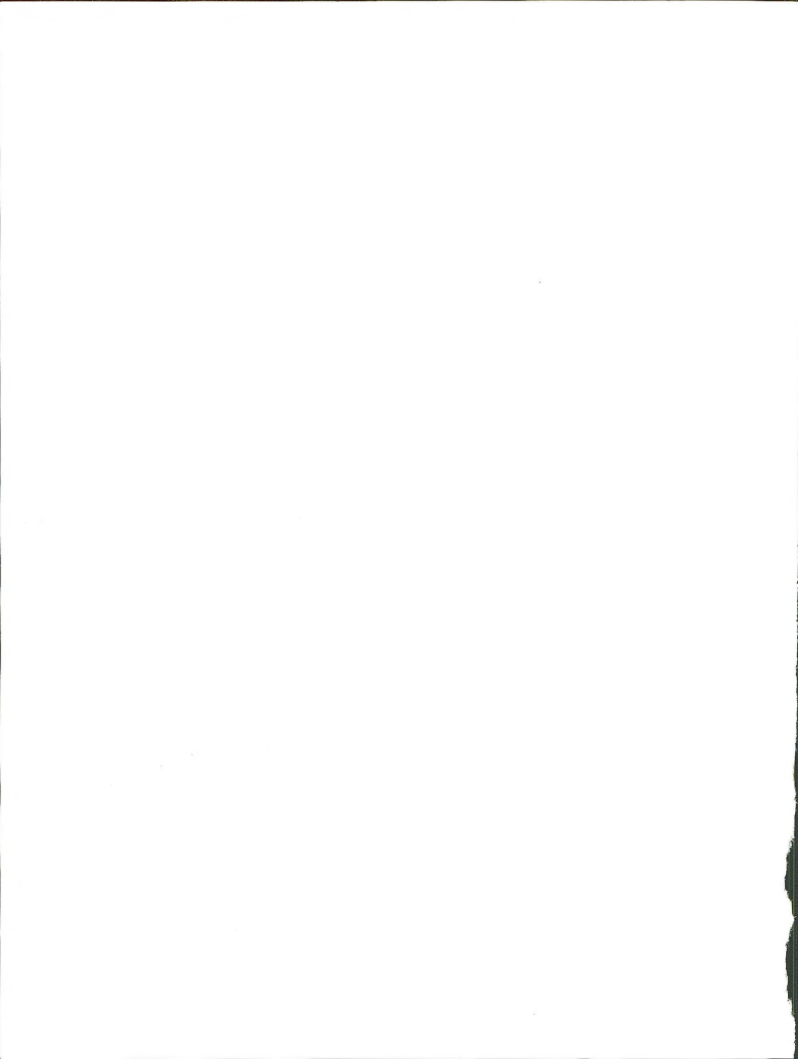
**GRAZING SUPPLEMENT**  
to the  
**FINAL RESOURCE MANAGEMENT PLAN/  
ENVIRONMENTAL IMPACT STATEMENT**  
for the  
**Lander Resource Area**  
**Lander, Wyoming**

Prepared By:

U.S. Department of the Interior  
Bureau of Land Management  
1986

*Wilbur A. Odum* 9-9-86  
Wyoming State Director Date

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## PART A

# INTRODUCTION

This is a supplement to the Lander Resource Management Plan.

## PURPOSE AND NEED

The purpose of this supplement is to describe and analyze the alternative plans identified for managing and resolving issues concerning the rangeland resources and related ecosystems (including air, soil, water, vegetation, wildlife and fisheries habitat, wild horses, and livestock forage) on public lands in the Lander Resource Area. A plan is needed to enable the Bureau of Land Management (BLM) to properly manage the public land and resources under its jurisdiction; to maintain stability in the livestock industry dependent on public land; and to provide for the orderly use, improvement, development, and reclamation of public lands, consistent with multiple-use management objectives for these lands. This responsibility and authority evolves from a series of legal mandates, including the Taylor Grazing Act of 1934 (43 USC 315-315r), the Classification and Multiple-Use Act of 1964 (Public Law 88-6071), the National Environmental Policy Act (NEPA) of 1969 (Public Law 91-190), the Federal Land Policy and Management Act of 1976 (Public Law 94-579), and the Public Rangelands Improvement Act of 1978 (Public Law 95-514).

The rangeland in the Lander Resource Area consists of two portions: Green Mountain and Gas Hills. The plan for the Green Mountain portion was developed in 1983, and an environmental impact statement (EIS) was prepared at that time. The Green Mountain Rangeland Program Summary is included in Appendix A and its provisions are incorporated by reference into the Lander Resource Management Plan RMP/EIS.

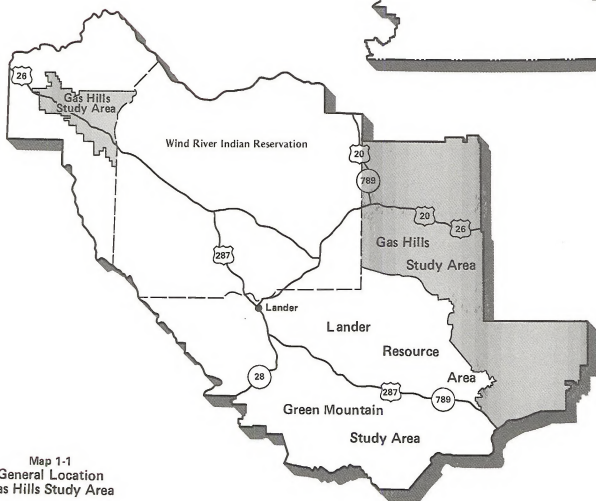
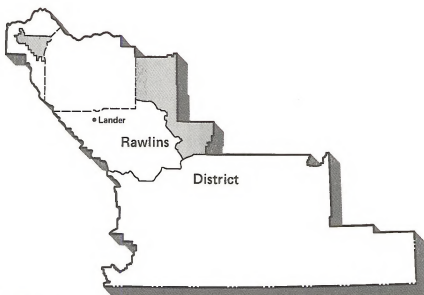
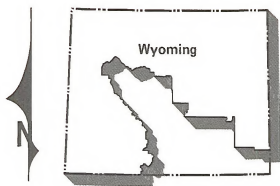
The Gas Hills portion is covered in the following pages of this supplement and is hereafter referred to as the study area.

## LOCATION AND SETTING OF THE STUDY AREA

The study area consists of the Gas Hills, East Fork, Dubois Badlands, Whiskey Mountain, and Dubois Area Management Units. In general the study area encompasses the northeast portion of Fremont County and the southwest corner of Natrona County. The northwest portion of the area encompasses a triangular-shaped area along the Wind River at the town of Dubois. Most of the area is in Fremont County, but some is in Carbon, Washakie, Hot Springs, and Natrona counties. The study area encompasses approximately 1.7 million acres. Public land administered by BLM accounts for 1.0 million acres (map 1-1). (The study area, except for the Dubois Unit, is largely a solid block of public land.) The area is noted for its rich diversity of natural resources such as minerals, aquatic and terrestrial wildlife species, livestock grazing lands, watersheds, and scenic and historical features.

## PLANNING PROCESS

BLM has adopted a grazing management policy that involves assignment of management priorities to groups of allotments, within the context of the existing planning system. The approach, which addresses the planning issues, is called selective management. Selective management is based on the identification of allotments or areas sharing similar resource characteristics, management needs, and resource and economic potential for improvement. Allotments are identified as belonging to one of three categories: (1) Category M allotments - the objective for allotments in this category is to maintain their existing satisfactory conditions; (2) Category I allotments - the objective for these allotments is to correct significant problems; and (3) Category C



Map 1-1  
General Location  
Gas Hills Study Area

## INTRODUCTION

allotments - the objective for these allotments is custodial management, while still protecting existing resource values. Proposed actions for managing allotments within each category are based on their current resource situation. The details of the policy are contained in BLM Instruction Memorandum No. 82-292, Final Grazing Management Policy.

One hundred thirty-one allotments in the study area have been categorized in accordance with the BLM grazing management policy. The following is a discussion of that priority setting process and other actions that would occur with implementation of the policy under the Proposed Action.

### Allotment Categorization

To address the planning issues and resolve resource problems, the first step in formulating the rangeland management recommendations for the Lander RMP was to place each of the grazing allotments into one of the three management categories (I, M or C). Characteristics of these three management categories are described below.

#### Category I Characteristics

Allotments in the I category are characterized by the fact that one or more significant problems exist. These problems may be range condition, conflicts with other grazing animals, lack of water, poor distribution of grazing animals, other land uses that interfere with livestock operations, and present range management practices that will not resolve the significant problem(s). The I (Improve) category allotments are not satisfactory in terms of productivity, condition or management. They have a high productive potential. Investment in range improvements on these lands would yield sufficient returns to justify the cost of the improvements. If an allotment were characterized by one or more of the following factors, it was placed in the I category.

##### Factor 1

Ecological site inventory results indicate vegetative production is not satisfactory, key species are not present in satisfactory amounts, and species composition indicates less than satisfactory range condition;

##### Factor 2

Allotment evaluation indicates utilization and trend in condition of the vegetative resource is not satisfactory; or

##### Factor 3

Allotment analysis shows significant forage competition among grazing animals. Sufficient forage is not available to support present levels of livestock and management objective levels of other grazing animals.

##### Factor 4

The distribution of grazing animals is not satisfactory. Significant problems exist around wetlands, riparian areas and meadows;

##### Factor 5

Turn-out dates and season of use are not consistent with range readiness and range management principles; and

##### Factor 6

Significant conflicts with other land uses are evident.

##### Factors 7 and 8

Allotment is judged to have potential for high vegetative productivity but is not producing at or near potential, and there is a potential for positive economic return on public investments.

#### Category M Characteristics

Allotments in the M category (see table B-1 in Appendix B) are characterized by the fact that there are no significant problems. They are satisfactory in terms of vegetative production, species composition, condition and utilization levels. There are no significant problems with distribution of grazing animals, seasons of use or other land uses. They also have good potential for forage production and have potential for a positive economic return on public investment. M category allotments are not necessarily the top yielding allotments, but rather are allotments where productivity, condition and management is satisfactory. For the most part, these allotments do not need a great deal of range improvements.



## INTRODUCTION

Relative to the I category allotments, investments in these allotments would not result in enough increased productivity to justify the cost of the improvements.

### Category C Characteristics

Allotments in the C category are characterized by the fact that federal investment is not feasible because of a lack of potential for economic return on public investment. These allotments have little or no potential for vegetative improvement and have no critical resource conflicts.

There are no C category allotments in the study area in which the potential for vegetative production is too low or in such poor condition that attempts to improve conditions would be physically infeasible. There are, however, allotments with landownership patterns that negate the possibility for economic return on federal investment in range improvements. The criteria for placing allotments into the C category were applied in the following way: (1) The landownership pattern was evaluated to determine whether federal investment in range improvements would be economically feasible; (2) The allotments were evaluated for the presence of critical resource conflicts and the public concern for the resources on the allotment. If critical conflicts and concerns were evident, the allotments were not placed in Category C.

BLM will conduct use supervision and monitoring on the Category I allotments first. If money and personnel are available after monitoring the Category I allotments, the allotments in the M and C categories will be monitored as needed.

The order in which the Category I allotments will be monitored and the intensity of monitoring will be based on the priority groups (i.e., high priority I category allotments will be monitored first and will receive the most intense monitoring). BLM will conduct low to high intensity monitoring on the Category M allotments, depending on the values of all resources in each specific allotment. On Category C allotments, BLM will conduct low-intensity monitoring.

Because characteristics of allotments may change as a result of management actions or natural phenomena, allotments might be moved among the three categories. Category changes will not occur without consultation with affected livestock operators.

Monitoring will be conducted to determine utilization of key forage plants, estimates of current annual use for all grazing animals, and

plant phenology and range readiness. Monitoring will also be conducted to study range trend in ecological condition, exclosures on riparian areas, climate (precipitation and temperature), water and forage quality and quantity, soil moisture, threatened and endangered plants, and wetlands.

After initial categorization, there are 38 I allotments, 51 M allotments, and 42 C allotments (see Appendix B and Current Grazing Management Situation at the beginning of the Affected Environment-Part C).

### Rangeland Program Summary

A Rangeland Program Summary (RPS) of the planning objectives and proposed planning decisions for all rangeland uses will be developed after the final RMP/EIS has been published. The RPS will contain a description of planning decisions that affect livestock grazing and the economic efficiency of the rangeland program. The RPS will also contain a summary of the monitoring program as planned for the area.

## PLANNING ISSUES

Resource problems or issues were identified during the RMP scoping process through consultations with BLM lessees/permittees, the Wyoming Game and Fish Department and other groups with an interest in rangeland management in the Gas Hills study area. Those issues are described in Chapter 1 of the Lander RMP/EIS document. The issues dealing specifically with rangeland resources require that the following questions be addressed in the RMP/EIS:

- Which grazing allotments can be identified as having satisfactory range condition and grazing management, are currently producing near their moderate to high resource production potential, have no serious resource-use conflicts, and may have opportunities for positive economic return from public investments?
- Which grazing allotments can be identified as having unsatisfactory range condition and grazing management, are currently producing below their moderate to high resource production potential, have serious resource-use conflicts, and have opportunities for positive economic return from public investments?



## INTRODUCTION

- Which grazing allotments can be identified where federal investment is not feasible because of a lack of potential for economic return on public investment and have no critical resource conflicts?
- Which management actions can be implemented on grazing allotments presently in satisfactory condition to maintain the vegetative resource, minimize soil erosion, protect the watershed, and maintain wildlife habitat conditions?
- Which management actions can be implemented on grazing allotments presently in unsatisfactory condition to improve the vegetative resource, enhance livestock forage, reduce soil erosion, improve watershed conditions, and improve wildlife habitat?
- Which management actions can be implemented on grazing allotments where federal investment is not feasible and that have no critical resource conflicts?
- Which grazing allotments contain significant aquatic and riparian habitats on public lands that will require special management attention through monitoring and development and implementation of allotment management plans or habitat management plans to establish and maintain satisfactory habitat conditions?
- Which grazing allotments contain crucial or important wildlife habitats (i.e., winter range, fawning areas, nesting or breeding areas, threatened or endangered species habitats, etc.) that will require special management attention?
- Which areas are uneconomical to qualify for full suppression for fire management and should be considered for limited suppression fire management which will, in turn, benefit livestock forage production and improve wildlife habitat?

## LAND-USE PLANNING OBJECTIVES FOR ALL RANGELAND USES

The following range management goals or objectives were identified through the planning system or are required by law:

1. Provide enough forage on a sustained-yield basis to satisfy at least the present demands of livestock and wildlife.

2. Maintain range condition at a level that would provide for sustained yield of forage production.
3. Maintain and improve terrestrial, aquatic, and riparian ecosystems to provide wildlife with adequate amounts of forage and habitat to maintain planned population levels.

## FORMULATION OF ALTERNATIVES

One of the principal considerations used to formulate the alternatives was that they would address the grazing issues in the area such as competition for forage among grazing animals, range condition and forage production. Another was that the alternatives provide a full range of options for resolving the issues through management of the area. Finally the alternatives must be technically and economically feasible and must meet the requirements of NEPA.

Using these basic considerations, five alternatives were developed.

### Alternative A - Improve Rangeland, Watershed and Wildlife Habitat Condition

Under this alternative, rangeland, watershed and wildlife habitat would be improved by balancing livestock and wildlife use and by constructing range improvement projects.

### Alternative B - (No Action) - Continuation of Present Management

Under this alternative, rangeland resources would continue to be used as they presently are. BLM would continue allowing present livestock use levels but no new range improvements or other management actions would be implemented at BLM's initiative.

## INTRODUCTION

### **Alternative C - Enhance Watershed and Wildlife Habitat (Reduce Livestock Grazing)**

Under this alternative, livestock grazing would be reduced in an attempt to improve the rangeland condition.

### **Alternative D - Maximize Vegetative Production**

Under this alternative, every possible action, except the reduction of livestock grazing, would be taken to improve the rangeland condition.

### **Alternative E - No Domestic Livestock Grazing**

Under this alternative, all domestic livestock grazing would be eliminated from public lands.

## **ALTERNATIVES CONSIDERED BUT NOT STUDIED IN DETAIL**

### **Alternative E**

The elimination of livestock grazing from all public lands in the resource area was considered as one management action for resolving the range management issues. However, after reviewing vegetative data, categorizing allotments, consulting livestock operators, and conducting public meetings, BLM concluded that eliminating livestock grazing from all public lands would not be a viable or necessary option. Resource

conditions, including range vegetation, watershed and wildlife habitat, would not benefit additionally from an area-wide prohibition of livestock grazing. Furthermore, public comments received during the issue identification and criteria development steps indicated a general acceptance of livestock grazing on public land, provided that such grazing would be properly managed.

### **Alternative D**

The objective of this alternative is to improve the range condition throughout the study area by one condition class (i.e., poor range sites to fair, fair range sites to good and good range sites to excellent). This would result in an increase in rangeland productivity of 35 percent over current authorized use. This additional productivity would be allocated to livestock grazing under this alternative.

Improving all but the excellent range sites by one condition class is technically feasible. It would require intensive management actions on all allotments (I, M and C categories) to accomplish this objective. This is principally because of the low precipitation (5 inches to 9 inches annually) and low vegetative production potential over most of the study area. Examples of the actions necessary to achieve this objective would be adjustment of most domestic grazing use to a fall and winter season, implementation of intensive grazing systems on nearly every allotment, and extensive pitting, contour furrowing, water spreading, vegetative manipulation, and seeding practices on all sites producing at or below moderate production potential.

Although this alternative would be technically feasible, the costs of extensive land treatments would be prohibitive and the benefits would be limited (costs would be more than three times greater, and benefits would be only 17 percent greater than under Alternative A), making this alternative economically infeasible. It would take more than 100 years before the objective of improving all range sites by one condition class would be attained; therefore, it will not be considered further in this document.

## PART B

# DESCRIPTION OF ALTERNATIVES STUDIED IN DETAIL

This section describes the management actions that would occur under each of the three alternatives analyzed in detail. The Improve Rangeland Condition Alternative, the No Action Alternative, and the Enhance Watershed and Wildlife Habitat Alternative are presented following the presentation of Management Actions Common to All Alternatives.

## MANAGEMENT ACTIONS COMMON TO ALL ALTERNATIVES

### Implementation of Management Actions

Under all alternatives, the existing management situation would continue until monitoring indicated that changes were needed, then implementation of management actions would begin.

Allotment management plans, habitat management plans, etc., would be developed; environmental assessments would be done; and range improvements would be completed. The funding for range improvements would be allocated to the Category I allotments first. Range improvements would be done on the M and C category allotments after consultation with the Rawlins District Grazing Advisory Board, and as personnel and funds permitted. Although range betterment funds could be used for range improvements in M and C category allotments, most of this funding would be scheduled for Category I allotments. M and C category allotment funding for range improvements would rely primarily on money contributed by permittees. If it were determined that adjustments in grazing preference were necessary, the initial adjustment would be in the first year and the balance of the adjustment would be taken in the third and fifth years following the initial adjustment. However, before implementation of the third and fifth year adjustment, a review of available information would be made to determine whether the amount of adjustment should be modified. Adjustments in turn-out dates and seasons of use would be phased in over a

period not to exceed 5 years. Where possible, adjustments would be implemented by mutual agreement with the permittee. If agreements could not be negotiated, adjustments would be implemented by decision.

### Monitoring

Any monitoring that would occur under the Proposed Action or alternatives would be conducted in accordance with the following standard operating procedures. Existing range condition and trend studies would continue during the monitoring.

1. The BLM Manual, Wyoming State Office Supplement Handbook H-4423-1, Section 4423.56, would be used as a general guide in developing range condition trend-monitoring procedures. Plant frequency, density, production and utilization, and ground cover would be sampled to evaluate vegetation and soil erosion trends. Other parameters, such as canopy cover, seedling or shrub characteristics would be considered as needed on unique areas such as riparian zones, aspen stands, and bitterbrush or other mountain shrub thickets.
2. During and after grazing of each allotment, forage utilization would be measured by the height-weight method or the key forage plant method described in the BLM Manual, Wyoming State Office Supplement Handbook H-4423-1, Section 4423.47. This would aid in determining whether existing stocking levels were providing proper use and what adjustments in the present management, if any, would be needed. These studies would also help determine a schedule for seasonal use within a grazing system.
3. Meadows would be monitored to determine impacts from grazing as described in the BLM Manual, Wyoming State Office Supplement Handbook H-4423-1, Section 4423.56C.
4. Rain gauges would be used to take measurements of precipitation to help interpret vegetative production variations resulting from climatic changes.

## ALTERNATIVES

5. Water quality and quantity would be monitored as necessary to determine the location of the problem areas.
6. Soil erosion would be assessed in conjunction with range trend studies and utilization studies. Changes in gully development along transects would be documented. Clay-mineral analysis of sediment, 3-F erosion bridge and paired watershed plot sampling would be used to monitor changes in sediment and erosion sources.
7. If actual use information were required, it would be used to evaluate allotment management plans (AMPs), areas where management would be planned, or problem areas. Direct and indirect methods (according to the guidelines in BLM Manual 4400.23A, Wyoming State Office Supplement Handbook H-4423-1, Section 4423.3) would be used to collect this information.

### Grazing Administration

Grazing administration under the Proposed Action or alternatives would be conducted in accordance with the following standard operating procedures:

1. Permits specifying the allotments, season of use, and number and kind of livestock would be issued to each operator. Operators would have to obtain BLM approval before changing the grazing specifications outlined in their permits.
2. Livestock operators may be required to file actual-use reports showing how many and how long livestock grazed in each allotment and/or pasture. Use on the allotments would be supervised by BLM throughout the grazing year.
3. If necessary, actions resolving unauthorized use would be initiated as described in 43 CFR 4150. The unauthorized use would be eliminated and payment would be collected from those responsible for damage and consumption of forage.
4. Each AMP would incorporate site-specific objectives for maintaining or improving livestock, wildlife and fish habitat within the allotment. The grazing system implemented under the AMP would be designed to achieve those objectives.

### Range Improvements

Any range improvements that would occur under the Proposed Action or alternatives would first be subjected to economic and environmental analyses. Adequate information to determine the economic benefits and environmental consequences would be collected before improvements are constructed.

#### General

Before construction of range improvements or vegetative manipulation, cultural resources would be inventoried and evaluated, and attempts to avoid sites of significant cultural resources and high-site density areas would be made. If this were not possible, the State Historic Preservation Officer and the Advisory Council on Historic Preservation would be consulted to develop acceptable mitigative strategies. Locations of cultural sites would not be disclosed to the public.

Consultations would be conducted according to the Endangered Species Act, Section 7, if deemed necessary and appropriate mitigative or avoidance actions would be taken.

New range developments and maintenance of existing developments within wilderness study areas would be consistent with the BLM's Interim Management Policy and Guidelines for Land Under Wilderness Review.

In accordance with BLM Manual, Section 8341, visual resource management contrast ratings would be used in the project planning stages of all proposed land-management activities that would disturb the soil, change or remove vegetation, or place a structure on the landscape. These ratings would be used to determine the amount of contrast between a proposed activity and the existing landscape. Assessing the amount of contrast would indicate the severity of impact and serve as a guide in determining what would be required to reduce the contrast (visual impact) to the point where it would meet the visual management class requirements for the area.

Cooperative agreements or range improvement permits with range users would outline maintenance responsibilities for range improvement projects.

## ALTERNATIVES

### Fences

Fences would be installed according to spacing, height, and other specifications described in the BLM Manual, Section 1740 and Handbook H-1741-1, for the control of livestock as well as the protection of wildlife. An example would be spacing the bottom wire of a 3-wire fence at 16 inches above the ground in pronghorn antelope ranges. Variances from these standards could be approved by the authorized officer after consultation with affected parties.

### Water Developments

Federally funded livestock watering developments would be available and safe for wildlife and wild horse needs.

After the excavation of a spring, a metal headbox would be installed. The water would be piped into a trough with an overflow pipe leading back into the original drainage or into a new pit. The meadow complex around the spring would be fenced.

All water troughs would be either circular rings with concrete bases or metal troughs. Wildlife escape ramps would be installed to prevent birds and small animals from drowning.

The appropriate State Engineer permits are obtained for each project.

### Weed and Pest Control

Since 1978, the Lander Resource Area annually contracts with the Fremont County Weed and Pest Control District for the spraying of weeds that occur on scattered parcels of BLM-administered lands. This is done as a cooperative effort with private landowners who are engaged in weed control programs on their own lands. In some cases, untreated federal lands could serve as a seed source for invading private lands that have weed control programs.

All pesticide programs are carried out in accordance with federal and Wyoming regulations governing such programs. (Environmental Assessment, *Fremont County Designated Noxious*

*Weed Control Program*, 1980. BLM-Lander Central Files 9222 Chemical Pest Control, Fremont County Pest Control; and Northwest Area Noxious Weed Control Program EIS, 1985.)

The weed control program's target area is the scattered parcels of leafy spurge-infested federal land in the area between Baldwin and Squaw Creeks.

### Land Treatments

Brush control would be done by applying herbicides from aircraft or by burning. Noxious weeds would be controlled by on-the-ground herbicide application or burning. All chemicals must be cleared by the U.S. Department of the Interior, and burning plans must be cleared by the Wyoming Department of Environmental Quality. A 200- to 250-foot buffer on live streams and other water sources would be observed for aerial applications, and buffer zones from water and timber would be required for chemical use. Aerial spraying would be done when wind speed was less than 6 miles per hour.

After vegetative manipulation has been completed, allotments must be managed to ensure the maximum opportunity for success. This would include, but is not limited to: (1) resting from livestock grazing for a minimum of two growing seasons, (2) fencing of the area for protection of vegetation, and (3) establishing a grazing system to ensure proper use of the area following manipulation. Wildlife use would be considered. Vegetative treatments would not be undertaken in areas where treatment would create an erosion problem.

To prevent erosion, land treatments would not be done on slopes greater than 25 percent.

Wildlife habitat needs would be considered for all land treatments. No treatment would be done within ¼ mile of identified sage grouse strutting grounds, and treatments would be restricted as appropriate in crucial habitat areas (big game winter ranges, and sage grouse nesting areas, etc.).

Reclamation of areas disturbed by energy and mineral activities would involve seeding or planting a mixture of the major species present within the range site/habitat type.



## ALTERNATIVES

### THE ALTERNATIVES CONSIDERED IN DETAIL

#### Alternative A - Improve Rangeland Condition (Proposed Action)

Under this alternative, present management would continue in the short term. Management actions (table B-8, Appendix B) to alleviate known problems in the I category allotments would be implemented as soon as BLM personnel and funding were available. Additional management actions would be initiated as monitoring data indicated a need.

Under this alternative, 45 to 55 miles of fence would be constructed; 10 reservoirs and 57 other water improvement projects would be built; 9,900 acres of vegetation would be treated to reduce sagebrush; and livestock grazing would be reduced between 13 to 19 percent in I category allotments. Cumulative target stocking levels under this alternative would be between 114,298 AUMs and 144,101 AUMs (a 4 percent decrease to a 21 percent increase).

The target AUM figures are not final stocking levels. All livestock use adjustments would be implemented through documented mutual agreement or by decision. When adjustments would be made through mutual agreement, they would be implemented after the rangeland program summary had been issued (subject to a 30-day protest period). When livestock use adjustments are implemented by decision, they would be based on operator consultation and monitoring of resource conditions. Current BLM policy emphasizes the use of a systematic monitoring program to determine the need for livestock adjustments.

The federal regulations that govern changes in allocation of livestock forage provide specific direction for livestock use adjustments implemented by decision (43 CFR 4110.3-1, 43 CFR 4110.3-2, and 43 CFR 4110.3-3). The regulations specify that permanent increases in livestock forage allocation shall be implemented over a period not to exceed 5 years. . . . and that decreases in livestock forage allocation "shall be implemented over a 5-year period. . . ." The regulations provide for increases and decreases to be implemented in less than 5 years when an agreement is reached to implement the adjustment in less than 5 years.

#### Management Actions for Category I Allotments

The Category I allotments were divided into three monitoring/implementation priority groups (high, moderate and low), based on the categorization factors, input from affected parties, and the experience and knowledge of Lander BLM personnel. The allotments in each group are shown in tables B-3, B-4, and B-5 in Appendix B. The number of factors used in the process of assigning priorities was not a major element in the decision. For example, even though seven factors might have been used in placing an allotment in Category I, perhaps only one critical factor was used to place that allotment in the high-priority group.

The 38 Category I allotments comprise 29 percent of the allotments and 40 percent of the acreage in the study area. The principal objective for management of Category I allotments is to improve existing resource conditions and to reduce or eliminate resource conflicts. Specific management actions proposed for Category I allotments depend on the eight categorization factors affecting each individual allotment (also see table B-2, Appendix B).

##### Factor 1

Ecological site inventory results indicate vegetative production is not satisfactory, key species are not present in satisfactory amounts, and species composition indicates less than satisfactory range condition;

##### Factor 2

Allotment evaluation indicates utilization and trend in condition of the vegetative resource is not satisfactory; or

##### Factor 3

Allotment analysis shows significant forage competition among grazing animals. Sufficient forage is not available to support present levels of livestock and management objective levels of other grazing animals.

##### Factor 4

The distribution of grazing animals is not satisfactory. Significant problems exist around wetlands, riparian areas and meadows;

## ALTERNATIVES

### Factor 5

Turn-out dates and season of use are not consistent with range readiness and range management principles; and

### Factor 6

Significant conflicts with other land uses are evident.

### Factors 7 and 8

Allotment is judged to have potential for high vegetative productivity but is not producing at or near potential, and there is a potential for positive economic return on public investments.

All management actions for the allotment would be implemented after consultation with the affected parties. After establishing objectives, a monitoring program would be developed to evaluate the effectiveness of the present management situation in achieving those objectives. Objectives would be developed to ensure protection to watershed, soils, wildlife habitat, and vegetation. If the objectives were not being achieved, allotment management plans (AMPs) would be developed and would incorporate any or all of the following specific management actions.

The following management actions would be applied to allotments that are not in satisfactory condition because of factors 1, 2 and 3. This includes 38 allotments in the study area.

- Adjust stocking levels of grazing animals. For livestock this might include both increases or decreases in livestock grazing, and for wildlife, increases or decreases might be proposed to the Wyoming Game and Fish Department.
- Implement grazing systems.
- Conduct vegetative manipulation projects such as burning or spraying of brush species.
- Adjust turn-out dates and season of use.

On 31 of 38 allotments, present grazing management practices are inadequate to meet long-term resource objectives because of factors 4, 5 and 6.

For factor 4, possible management actions would include:

- Develop water projects where livestock distribution problems have been caused by lack of water.

- Use grazing systems and/or range improvements to solve problems where large grazing animals are concentrating on riparian areas. Total exclusion of large grazing animals for several years might be necessary on some riparian areas to allow them to recover.

For factor 5, management actions would include:

- Adjust turn-out dates and/or season of use, based on plant phenology and range readiness.
- Implement grazing systems to provide for the physiological needs of the key forage plants.

For factor 6, management actions would include:

- Where the land-use conflicts have been causing a loss of forage production because of surface disturbance, rehabilitation efforts would be conducted and monitored for effectiveness. In order to enhance the rehabilitation effort, portions of or the entire rehabilitated surface might be fenced. Continual loss of forage production, coupled with unsuccessful rehabilitation efforts, would result in two possible actions: (1) elimination of the surface disturbing activity within the allotment, and/or (2) temporary or permanent adjustments in stocking levels of livestock.
- Where the land-use conflicts have been damaging structural improvements or causing a livestock trespass situation, the management action would be to identify the agent causing the problem and correct it. For example, oil and gas companies would be required to clean cattleguards.
- Other land-use conflicts would involve damage to public and private lands by off-road vehicle use during wet weather. The management action for this factor would be the development of a sign program and/or seasonal site-specific road closures.

All 38 allotments have the potential for high productivity but they are not producing at or near their potential, based on SCS Range Site Guides (factors 7 and 8).

In the study area, all of the management actions and range improvement practices discussed above will be used to reverse downward trends in range conditions, increase productivity of the vegetative resources, improve wildlife habitat, and improve soil and watershed conditions.

Benefit/cost ratio analyses have been conducted on range improvements for each allotment.

## ALTERNATIVES

(See table B-8, Appendix B, for the benefit/cost ratios for the I allotments.)

### Management Actions for Category M Allotments

Category M allotments comprise 39 percent of the allotments and 54 percent of the acreage in the study area. For Category M allotments, the principal objective is to maintain or, if possible, improve present resource conditions and management. The following management actions would be taken for these allotments.

- Authorize the current livestock use under a 10-year permit.
- Authorize increases in livestock use, when appropriate, that would be consistent with multiple-use objectives and would not be detrimental to watershed, soils, wildlife habitat, or vegetation. These increases would range from 10 percent to 55 percent of current authorized use for all M category allotments.
- Consult with permittees to develop flexibility in livestock operations. Management plans proposed by the livestock operator would be reviewed on a case-by-case basis to ensure protection of watershed, soils, wildlife habitat, and vegetation.
- Authorize and construct range improvements to meet multiple-use management objectives.
- Monitor trends in range condition and productivity to ensure that conditions of the basic renewable resources (watershed/soils, wildlife habitat, and vegetation) would remain satisfactory.

### Management Actions for Category C Allotments

Category C allotments comprise 32 percent of the allotments and 6 percent of the acreage in the study area. For Category C allotments, the principal short-term objective would be to prevent deterioration of current resource conditions by managing the lands in a custodial manner. Management actions for these allotments would include low-intensity use supervision and monitoring. Monitoring would focus on changes

in ownership or livestock operations and would be designed to detect undesirable changes in vegetation, wildlife habitat, and soil/watershed conditions. The following management actions would be implemented for Category C allotments.

- Livestock use (numbers, kind, season of use) would be permitted as authorized under a 10-year permit or lease (1985 levels). (See table B-7 in Appendix B for current authorized use.)
- BLM would conduct low-intensity use supervision and monitoring. Monitoring would focus on changes in ownership or livestock operations.
- Adjustments would be made in numbers and season of use where necessary to prevent deterioration of present resource conditions.

### Alternative B - No Action - Continuation of Present Management

Under this alternative, livestock grazing would be managed in the following manner.

- Even though allotments would fall within the I, M and C categories, based on present condition, they would not be given a priority ranking for implementation of monitoring or management actions, as in the Proposed Action.
- No new range improvements would be proposed under this alternative, but existing range improvements would be maintained.
- Requests for changes in season of use as well as changes in kind of livestock would be considered on a case-by-case basis; however, none would be proposed under this alternative.
- No new allotment management plans (AMPs) would be initiated by BLM. The two existing AMPs would remain in effect.
- Habitat requirements for big game population objectives would be met.
- No adjustments in present stocking levels or seasons of use would be made; therefore, target stocking levels would be 119,128 AUMs. Use supervision and license compliance would be conducted.



## ALTERNATIVES

### **Alternative C - Enhance Watershed and Wildlife Habitat (Reduce Livestock Grazing)**

The objective of this alternative is to improve and enhance the watershed, wildlife and vegetative resources through a reduction in livestock grazing.

The purpose of considering this alternative is to determine whether rangeland issues could be resolved by reducing livestock use only. This reduction would be accomplished by limiting the

allotment stocking levels to no more than the rates allowable at the next lower range site condition class, i.e., range sites currently in fair, good and excellent condition would be stocked as if they were in poor, fair and good condition. On the average, this action would result in a 42 percent reduction in current authorized grazing use in the study area (see Appendix B tables for allotment-specific stocking levels). Type and class of livestock and seasons of grazing use would be the same as in Alternative B - Present Management. Target stocking levels would be 69,197 AUMs (a 42 percent reduction). Reductions would be phased in over a 5-year period, as described in Alternative A.



## PART C

### AFFECTED ENVIRONMENT

#### INTRODUCTION

For resources other than livestock grazing, socioeconomics and vegetation, refer to the Affected Environment section (Chapter III) of the RMP.

None of the following items will be affected by the Proposed Action or alternatives and, therefore, will not be analyzed further for impacts from grazing in this supplement.

1. Wilderness values
2. Areas of Critical Environmental Concern (ACECs)
3. Forestry
4. Air quality
5. Wild or scenic rivers (designated or recommended)
6. Topography
7. Climate
8. Geology
9. Prime or unique farmlands.
10. Wild horses and burros.

#### CURRENT GRAZING MANAGEMENT SITUATION

As part of the allotment categorization process, the current grazing management situation was analyzed and the following determinations were made for all allotments (see table B-2 in Appendix B for specific information on factors used to categorize allotments).

Vegetative production is not satisfactory; key species are not present in satisfactory amounts; and species composition indicates unsatisfactory range condition on 36 allotments, comprising 560,473 acres or 42 percent of the study area.

Current utilization and trend in range condition is unsatisfactory on 13 allotments, comprising 163,146 acres or 12 percent of the study area.

Significant forage competition among grazing animals occurs on 14 allotments, comprising 161,670 acres or 12 percent of the study area.

Unsatisfactory distribution of grazing animals and forage utilization has been identified on 18

allotments, comprising 413,174 acres or 31 percent of the study area.

Improper turn-out dates and season of use by livestock affects 25 allotments, comprising 301,057 acres or 23 percent of the study area.

Significant land-use conflicts with livestock grazing occur on 4 allotments, comprising 100,503 acres or 8 percent of the study area.

Current vegetative productivity by range site is below the potential for high productivity on 38 allotments, comprising 567,329 acres or 43 percent of the study area.

Potential for positive economic return on public investments exists on 38 allotments, comprising 567,329 acres or 43 percent of the study area.

#### DESCRIPTION OF CLIMATE AND RANGE SITES

Within the study area, there are four climatic zones that have an important effect on the development of the vegetative resource. These zones and their approximate size within the study area are: 5- to 9-inch precipitation, Wind River Basin (732,000 acres/55 percent); 10- to 14-inch precipitation, Foothills and Basins East (67,000 acres/5 percent); 10- to 14-inch precipitation, High Plains Southeast (466,000 acres/35 percent); and 15- to 19-inch precipitation, Foothills and Mountains East (66,000 acres/5 percent) (Soil Conservation Service Range Site Guides for Wyoming).

Climatic conditions within these zones, in conjunction with other environmental factors, produce distinct ecological sites commonly called range sites. These range sites within the study area can be grouped into eight major vegetative types: grass, meadow/riparian, sagebrush, greasewood, mountain shrub, juniper, conifer, and waste. Table 3-1 depicts the precipitation zone, acreage, percent of area, major range sites, associated wildlife habitat types, and the common plant species within each vegetative type.

On table 3-1 vegetation has been correlated with standard habitat sites for wildlife. Within each vegetative type, the associated habitat type(s) are mentioned.

TABLE 3-1  
MAJOR PLANT SPECIES

Vegetative Type	Acres	Precipitation Zone	Major Range Sites	Percent Of Study Area	Grasses/Grasslike	Forbs	Shrubs/Trees	Associated Wildlife Habitat Type
Grass	1,102	All	Shallow Clayey Clayey Very Shallow	.1	Western wheatgrass Thickspike wheatgrass Bluebunch wheatgrass Streambank wheatgrass Needleandthread Sandberg bluegrass Indian ricegrass Blue grama Threeawn Idaho fescue Prairie junegrass Threadleaf sedge Bottlebrush squirreltail	Biscuitroot Phlox Wild buckwheat Pussytoes Aster	Big sagebrush Douglas rabbitbrush Birdsfoot sagebrush Black sagebrush Low sagebrush Gardner saltbush Winterfat	Highland shortgrass Sagebrush-mixed shrub Sagebrush-mixed grass Lowland shortgrass
Meadow/Riparian	5,272	All	Subirrigated Saline Subirrigated Wetland Lowland	.4	Thickspike wheatgrass Quackgrass Kentucky bluegrass Tufted hairgrass Mat muhly Rushes Sedges Alkali cordgrass Inland saltgrass Arrowgrass Bluebunch wheatgrass Basin wildrye	Thistle Iris Lupine Phlox Horsetail Western yarrow Aster Violets Buttercup Common yarrow	Rubber rabbitbrush Narrowleaf cottonwood Water birch Dogwood Common chokecherry Currant Juniper Shrubby cinquefoil Willow Big sagebrush Wild rose Aspen Buffaloberry Black greasewood Fringed sagebrush	Riparian grassland Aspen riparian woodland Cottonwood floodplain Willow floodplain Wetland Subirrigated meadow Saline subirrigated meadow
Sagebrush	621,093	5-9"	Sandy Loamy  Shallow sandy Shallow loamy	46.7	Western wheatgrass Thickspike wheatgrass Bluebunch wheatgrass Sandberg bluegrass Indian ricegrass Threadleaf sedge Needleandthread Prairie junegrass	Phlox Wild buckwheat Lupine Pussytoes Aster Milkvetch Indian paintbrush Plains prickly pear Penstemon Vetch	Basin big sagebrush Black sagebrush Wyoming big sagebrush Douglas rabbitbrush Rubber rabbitbrush Broom snakeweed Silver sagebrush Shadscale Spiny hopsage Winterfat Birdsfoot sagebrush Black greasewood	Greasewood-sagebrush Big sagebrush- rabbitbrush Yucca-mixed grass Black sagebrush Silver sagebrush Tall sagebrush

TABLE 3-1 (Continued)  
MAJOR PLANT SPECIES

Vegetative Type	Acres	Precipitation Zone	Major Range Sites	Percent Of Study Area	Grasses/Grasslike	Forbs	Shrubs/Trees	Associated Wildlife Habitat Type
Sagebrush (cont.)	616,640	10-14" 15-19"	Sandy Loamy Shallow sandy Shallow loamy	46.3	Letterman needlegrass Needleandthread Basin wildrye Mountain brome Prairie junegrass Bottlebrush squirreltail Indian ricegrass Idaho fescue	Aster Eriogonum	Big sagebrush Rabbitbrush Antelope bitterbrush	Sagebrush-mixed grass Big sagebrush Rabbitbrush
Greasewood	34,095	5-9"	Saline lowland	2.5	Sandberg bluegrass Indian ricegrass Inland saltgrass Alkali sacaton Needlegrass Thicksike wheatgrass Bottlebrush squirreltail Blue grama Basin wildrye Nuttall alkali grass	Pursh seepweed Dock Phlox Lomatium Plains prickly pear Pepperweed Globemallow Milkvetch	Black greasewood Big sagebrush Gardner's saltbush Winterfat Bud sagebrush Douglas rabbitbrush Broom snakeweed Shadscale Birdsfoot sagebrush Fourwing saltbush Rubber rabbitbrush	Greasewood-sagebrush Saltbush Greasewood Mixed shrub Spiny hopsage
Mountain shrub	21,143	15-19"	Loamy Shallow loamy	1.6	Bluebunch wheatgrass Sandberg bluegrass Spike fescue Idaho fescue Mountain brome Threadleaf sedge Spike sedge Big bluegrass Bottlebrush squirreltail Letterman needlegrass Indian ricegrass Western wheatgrass	Penstemon Buckwheat Western yarrow Violet Common dandelion Lupine Cinquefoil Arnica Balsamroot	Antelope bitterbrush Snowberry Big sagebrush Skunkbush sumac Rubber rabbitbrush Silver sagebrush Common chokecherry Wild rose Ceanothus Serviceberry Western snowberry Mountain mahogany Wax current Bush rockspirea	Bitterbrush-sagebrush Mountain shrubland Sumac-wyethia

TABLE 3-1 (Continued)  
MAJOR PLANT SPECIES

Vegetative Type	Acres	Precipitation Zone	Major Range Sites	Percent Of Study Area	Grasses/Grasslike	Forbs	Shrubs/Trees	Associated Wildlife Habitat Type
Juniper	3,415	10-14"	Shallow breaks	.3	Western wheatgrass Threadleaf sedge Bluebunch wheatgrass Idaho fescue Indian ricegrass Needlegrass Green needlegrass Needleandthread Thickspike wheatgrass Prairie junegrass	Indian paintbrush Larkspur Penstemon Goldenweed Asterneweed Eriogonum Stonecrop	Utah juniper Common juniper Big sagebrush Winterfat Low rabbitbrush Antelope bitterbrush Mountain mahogany	Utah juniper woodland Mountain shrubland Utah juniper woodland- Lumber pine woodland
Conifer	6,029	10-14" 15-19"	No major range site identified	.5	Bluegrasses Sedges Mountain brome Idaho fescue Western wheatgrass Elk sedge Needleandthread	Arnica Balsamroot Oregon grape Penstemon Bedstraw Vetch Hawksbeard Western yarrow Aster Thermopsis	Big sagebrush Lumber pine Lodgepole pine Ponderosa pine Serviceberry Common chokecherry Quaking aspen Huckleberry Antelope bitterbrush Douglas-fir Engelmann spruce Subalpine fir	Lumber pine woodland Quaking aspen woodland Aspen-conifer woodland Douglas-fir forest Lodgepole pine forest
Waste	22,211		Rock Barren Steep slope Dense timber	1.6	If vegetation is present at all, most of the plant species associated with the waste subtypes in the Gas Hills Study area are those associated with the shortgrass, sagebrush, mountain shrubs, or juniper types.			Lumber pine woodland Utah juniper woodland Mountain shrubland Badland Castle Garden rockland Sweetwater rockland

## AFFECTED ENVIRONMENT

### VEGETATIVE TYPES

#### Grass

The average composition, by weight, of the grass type is 65 to 80 percent grass species, 10 to 15 percent forbs, and 10 to 20 percent shrubs. This type occupies less than 1 percent of the total study area, but it is important for livestock. Big game also make important use of the grass type mostly during the spring season.

The standard habitat types included within this vegetative type are highland short grass, sagebrush-mixed grass, lowland short grass, and sagebrush-mixed shrub.

#### Meadow/Riparian

The meadow/riparian vegetative type can be divided into two basic subtypes: riparian areas where the vegetative community consists of willows, narrowleaf cottonwoods, water birch, chokecherry, aspen, bluegrasses, sedges, and rushes; and wet meadow areas that contain mostly rushes and sedges.

The standard habitat types included in the riparian areas are cottonwood floodplain, willow floodplain, and aspen riparian woodland. The wet meadow subtype includes areas where the vegetative species are directly influenced by water. The standard habitat types that are associated with the wet meadow areas include wetland, riparian grassland, subirrigated meadow, and saline subirrigated meadow.

This vegetative type occupies less than 1 percent of the total study area; however, it is the type with the greatest production per acre. It also contributes a large portion of the forage for livestock grazing. Meadow/riparian areas are generally the areas of heaviest use because of their high-quality forage and close proximity to water.

#### Sagebrush

The study area is dominated by the sagebrush vegetative type, which occupies 93 percent of the total area. The average species composition for this type is 30 to 40 percent grass, 5 to 10 percent forbs, and 50 to 65 percent shrubs. Big sagebrush

is the most common subtype of the sagebrush vegetative type. The predominant plant species include Wyoming big sagebrush, basin big sagebrush, birdfoot sagebrush, and black sagebrush. Also included is the rabbitbrush subtype, which consists mainly of Douglas rabbitbrush and rubber rabbitbrush. Major grass species in the understory include Sandberg bluegrass, needleandthread, bluebunch wheatgrass, thickspike wheatgrass, western wheatgrass, and Indian ricegrass.

Standard habitat types that are included within this vegetative type are big sagebrush-rabbitbrush, greasewood-sagebrush, black sagebrush, silver sagebrush, tall sagebrush, and yucca-mixed grass.

On summer ranges, or when there is an abundance of other forage plants, sagebrush is considered an undesirable plant for livestock grazing. The herbaceous understory vegetation is preferred when accessible, and provides the majority of the forage for livestock. Sagebrush can be an important plant for some wildlife species such as mule deer, pronghorn antelope and sage grouse.

#### Greasewood

The average composition of the greasewood vegetation is 20 percent grasses, 10 percent forbs, and 70 percent shrubs. The major plant species in this type are black greasewood, alkali sacaton, and western wheatgrass. This type occurs on lowland areas with deep, medium to heavy textured saline soils.

Standard habitat types included in this vegetative type include greasewood-sagebrush, saltbush, mixed shrub, greasewood, and spiny hopsage.

#### Mountain Shrub

The composition of the mountain shrub vegetative type averages 92 percent shrubs, 3 percent grasses, and 5 percent forbs. The major plant species in this type are bitterbrush, snowberry, big sagebrush, and ceanothus. Mountain shrub occurs on foothills and mountain slopes. The principal use for this type is for wildlife forage.

The standard habitat types are bitterbrush-sagebrush, mountain shrubland and sumac-wyethia.

## Juniper

The composition of the juniper vegetative type averages 20 to 25 percent trees and shrubs, 70 percent grasses, and 5 to 10 percent forbs. This vegetative type consists mainly of Utah juniper, sagebrush and wheatgrass. It occurs on hills and low mountain slopes with shallow soils in the Bridger (Copper) and Rattlesnake mountains. Livestock use of this type is limited because of the roughness of the terrain. It is used primarily as cover for wildlife and is often important mule deer habitat, particularly during the winter.

The standard habitat types are Utah juniper woodland, Utah juniper-limber pine woodland, and mountain shrubland.

## Conifer

This vegetative type includes all rangeland in coniferous timber that supports grasses, forbs or shrubs. The major overstory species in this type are lodgepole pine, limber pine and quaking aspen. Some isolated pockets of Douglas-fir and Engelmann spruce occur on Beaver Rim, Sweetwater Rocks, Bridger (Copper) and Rattlesnake mountains, and in the Dubois area. Conifer is used by livestock and wildlife for cover, shade and forage.

Six standard habitat types have been identified as part of the conifer vegetative type: limber pine woodland, quaking aspen woodland, aspen-conifer woodland, limber pine-Utah juniper woodland, Douglas fir forest, and lodgepole pine forest.

## Waste

This type includes all areas of dense timber and brush that have no value for grazing domestic livestock or have such slight value that they are not economical for grazing. This type also includes barren and other areas that are too rough or inaccessible for livestock. Waste areas may be used by wildlife for cover and food.

There are six standard wildlife habitat types that have been identified for this vegetative type: badland, Sweetwater rockland, Castle Garden rockland, limber pine woodland, Utah juniper woodland, and mountain shrub land.

## POISONOUS PLANTS

Poisonous plants are a normal component of the range ecosystem. Most poisonous plant species will only kill animals if they are eaten in large amounts—almost a straight diet of them (Stoddart, Smith and Box 1975). Several factors such as the animal's seasonal susceptibility to the poisonous plant, the formation of the poisonous portion of the plant, the susceptibility of certain kinds of animals to poisoning from a particular plant, or deficiency of minerals within the diet play an important role in livestock poisoning.

A shortage of salt in the diet may cause animals to eat plants they would not normally eat. Shortages of other minerals such as phosphorus induces abnormal appetites, causing the animal to consume low-value vegetation, including poisonous plants. Although poisonous plants do occur throughout the study area, there are no areas of extremely large concentrations, and there are sufficient quantities of quality forage available for livestock. Poisonous plants could also affect turn-out dates; some plants are not toxic after they have matured.

Twelve species of poisonous plants are known to exist in the study area. Table 3-2 depicts the poisonous species, dangerous season, and the grazing animal endangered.

## RANGE CONDITION AND TREND

Range condition is the present state of vegetation of the range site in relation to the climax (natural potential) plant community for that site. It is an expression of the relative degree to which the kinds, proportions and amounts of plants in a plant community resemble that of the climax plant community for the site. Range condition is basically an ecological rating of the plant community. There are four range condition classes that indicate the condition of vegetation on a range site in relation to potential natural vegetation that could grow there. Range is in excellent condition if 76 to 100 percent of the vegetation is the same kind and amount as that in the climax stand; range is in good condition if the percentage is 51 to 75; it is in fair condition if the percentage is 26 to 50; and it is in poor condition if the percentage is less than 25 (Soil Conservation Service National Range Handbook 1976).



TABLE 3-2  
POISONOUS PLANTS WITHIN THE EIS AREA

Species	Dangerous Season(s)	Class of Livestock Endangered
Arrowgrass	All	All
Chokecherry	All	All, especially sheep
Death camas	Early spring	All, especially sheep
Greasewood	Spring	All, but mostly sheep
Halogeton	Fall and winter	All, but mostly sheep
Horsebrush	Spring	Sheep
Horsetail	Haying season	All, especially cattle and horses
Low larkspur	Early spring	Cattle
Tall larkspur	Early summer	Cattle
Loco	All, especially spring	All
Lupine	Summer	Sheep
Senecio	Spring and summer	All

Source: Stoddart, Smith and Box, 1975.

Range condition was determined on all 133 allotments within the study area using vegetation and soil information collected during the 1982 and 1983 range site inventory and applying this information to the Soil Conservation Service's method of calculating range condition. Analysis of the information indicated that of the public land, 6 percent (53,241 acres) is in excellent condition, 52 percent (505,275 acres) is in good condition, 33 percent (327,581 acres) is in fair condition, and 6 percent (53,338 acres) is in poor condition. Three percent (25,726 acres) was placed in an unclassified category. Areas that were placed in this category included roads, dry lakebeds, drill pads, mine spoils, and unsurveyed areas.

Trend information has been collected intensively on two allotments management plans (Davison and Deer Creek) within the study area. However, the information collected cannot be used to determine the overall vegetative trend of the entire study area. Comprehensive vegetative trend information for the entire study area is not available.

Two allotments in the study area are operating under allotment management plans (AMPs). These two allotments account for 5 percent of the federal acres and 4 percent of the present AUMs in the area. Conditions are generally fair to good, but there is some excellent and poor condition range. Deferred rotation grazing systems have been fully implemented in these allotments and appear to be meeting their management objectives.

## THREATENED AND ENDANGERED PLANTS

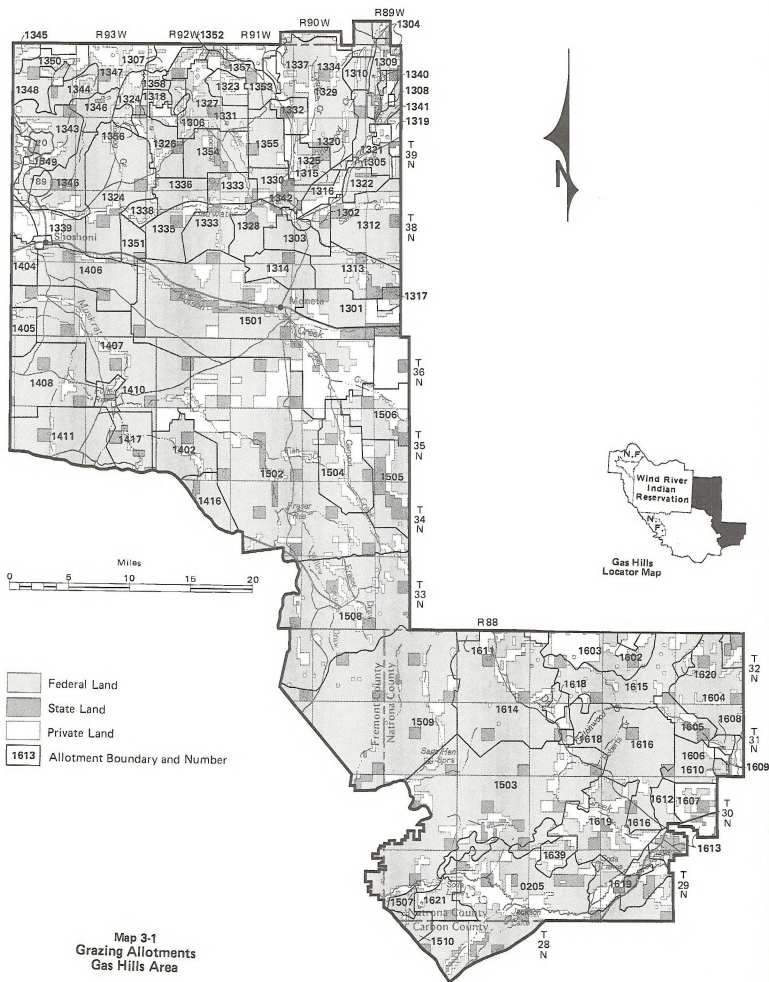
There are no threatened or endangered plant species in the study area; however, one plant within the study area is listed as rare and warrants consideration in the activity planning process (see Glossary for definition of activity planning).

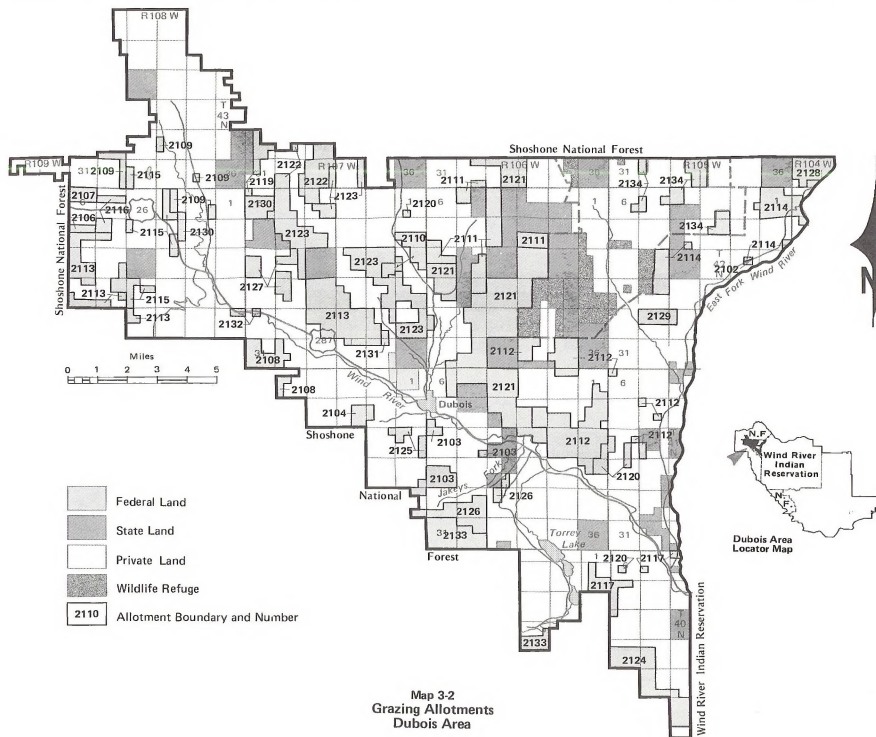
*Cryptantha subcapitata* is a perennial herb occurring in the Wind River Canyon. The plant is found at high altitudes in limestone derived soils.

This plant is not a candidate for listing on the threatened or endangered species list, but efforts should be made to study the effects of grazing on this plant and its habitat.

## LIVESTOCK GRAZING

Domestic cattle, horses and sheep are authorized to graze on public lands within the study area. There are 80 operators licensed to graze livestock on 131 allotments and utilize up to 119,128 AUMs of forage from the public lands. Two allotments are not licensed for grazing use (inactive). Operations entirely or partially within the boundaries of the Gas Hills study area vary in size from 6 to 6,799 AUMs of use on public land. Table B-7 in Appendix B summarizes livestock use by allotment (see maps 3-1 and 3-2 for allotment locations). The greatest percentage of the allotments within the study area are individual allotments (those allotments having only one operator). Only 12 allotments have more than one operator, and none of the allotments have more than two operators. The distribution of BLM AUMs varies widely by operator. Fifty-nine percent of the allotments have less than 500 AUMs of public land grazing preference and only 12 percent of the allotments have over 2,000 AUMs. Nine operators control the majority of the public land AUMs in the study area. This group also practiced the majority of voluntary nonuse of AUMs, that is, there was a direct, positive relationship between the size of the operation and the amount of voluntary nonuse practiced. Most of the operators in the study area run cattle; however, 20 of the allotments and 15,289 AUMs are used by sheep and 23 of the allotments and 1,364 AUMs are used by horses. Most of the operators who graze horses raise them for their own pleasure or for use in their livestock operations. There is only one





Map 3-2  
Grazing Allotments  
Dubois Area

## AFFECTED ENVIRONMENT

exclusive sheep enterprise. The remaining operators run sheep in conjunction with their cattle operation.

### Types of Operations

The majority of the operations in the study area are cow-calf operations. After a period of 6 to 12 months, most of the calves are sold; however, a few are retained for herd replacement.

Very few of the operators run yearling operations. These operators maintain a base breeding herd and hold the calves until the next fall. A few of these operators will buy yearling steers and heifers at auction, graze them on the public range over the summer grazing season, and then sell the 2-year-old cattle in the fall.

Periodically, an operator will lease the cattle from an out-of-state or out-of-area corporation, run them on the range for the summer grazing season, and then return them to the owner in the fall. These operations are very limited.

A few of the operations are based in other states. Cattle are shipped into the Lander Resource Area to graze on BLM range for the summer grazing season and then shipped back to feedlots for finishing after the grazing season.

## SOCIOECONOMICS

### Grazing Management

Public land in the study area provides forage for domestic livestock and wildlife. This provides tangible and intangible economic returns to society. The economic value of wildlife is discussed in the recreation section of the RMP. Tangible benefits associated with livestock grazing, range from local direct revenues to ranchers and ranch supply businesses to the indirect benefits to feed lots, clothing manufacturers, and the retail and wholesale food industry. Intangible benefits associated with livestock grazing range from the preservation of a traditional lifestyle to the maintenance of a standard of living for ranchers in general.

### Livestock Grazing

Public land forage contributes directly to the economic structure of livestock operations. Agriculture, predominantly livestock grazing, forms a primary economic base in Fremont County and contributes to the economic stability of the area.

Cattle and sheep are produced in Fremont County. In 1983 Fremont County ranked sixth in cattle production and ninth in sheep production in the state of Wyoming. This represents approximately 6 percent of the state's cattle production and 4 percent of the state's sheep production (Wyoming Agricultural Statistics 1983). Figures 3-1 and 3-2 show historical trends in Wyoming and Fremont County livestock production.

Licensed BLM AUMs have remained relatively constant over time. Figure 3-3 indicates total BLM AUMs and the amount of voluntary nonuse from 1976 through 1983. Figure 3-4 shows the total demand for forage versus the total supply of BLM forage in Fremont County.

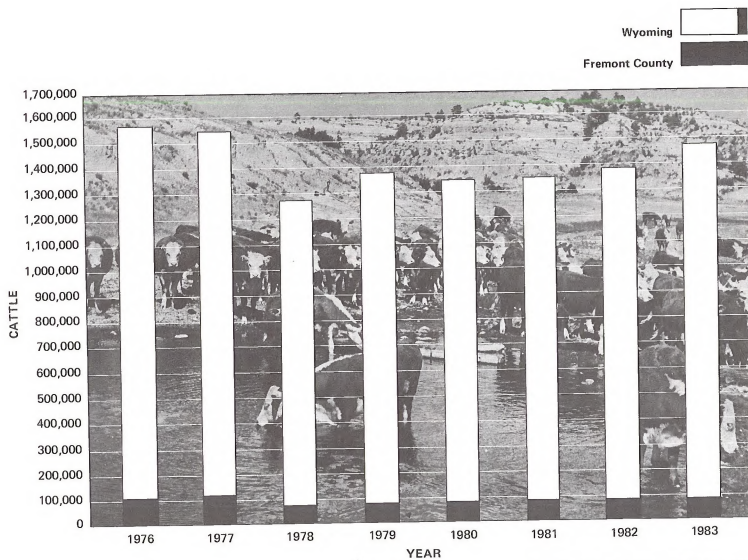
### Revenues

Personal income from livestock grazing ranges from part-time operations to individuals totally dependent on livestock production for a livelihood. Livestock are grazed on private, state, tribal, and public lands. Historically, BLM lands have provided an average of 25 percent of the forage requirements in Fremont County, which has a direct influence on the economic well being of area ranchers as well as the economy of the region.

Livestock operation revenues are based on a rancher survey completed in 1979 by BLM. These surveys have been updated to reflect current prices and costs. Summarized ranch budgets are shown in table 3-3. The various ranch sizes are designed to represent typical livestock operations in the Lander Resource Area. Sheep operations were not surveyed because there is only one in the area, and the survey data would have disclosed confidential information.

### Value of Public Lands to Livestock Production

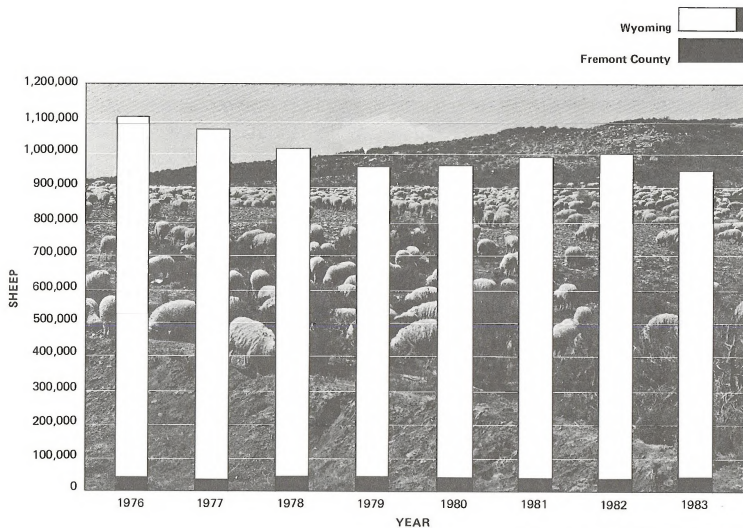
The last several years have been marginally profitable for cattlemen. These conditions have



Source: Wyoming Agricultural Statistics, 1983

Figure 3-1  
Cattle Production





Source: Wyoming Agricultural Statistics, 1983

Figure 3-2  
Sheep Production

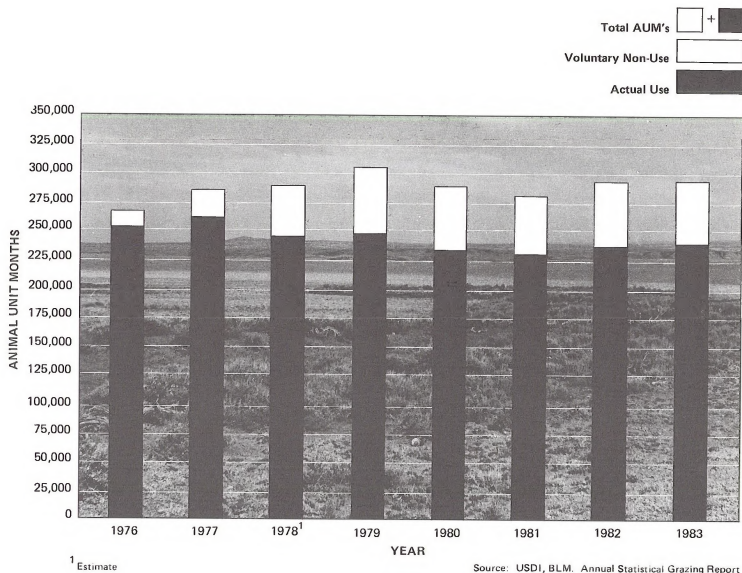
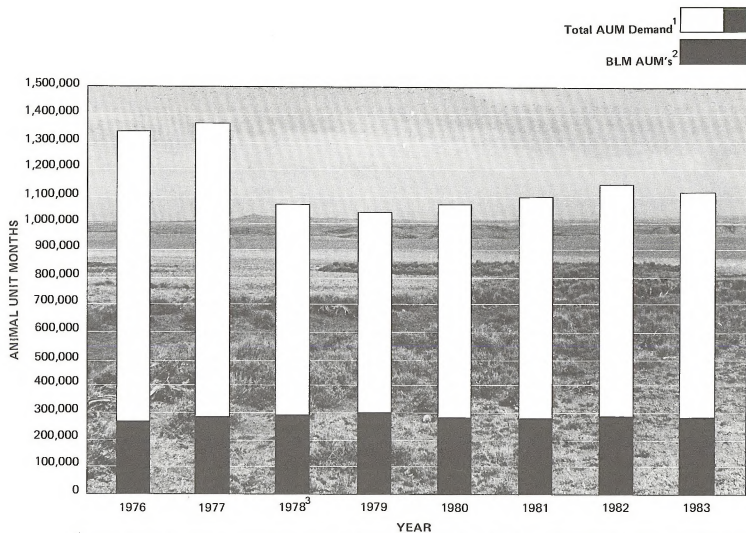


Figure 3-3  
Lander Resource Area  
BLM Animal Unit Months  
(Section 3 & 15 Lands)



<sup>1</sup> Approximations calculated from total AU's in Fremont County

<sup>2</sup> Includes Section 3 & 15 lands

<sup>3</sup> Estimate

Sources: Wyoming Agricultural Statistics, 1980, 1981, 1982, 1983  
 USDI, BLM, Annual Statistical Grazing Report

**Figure 3-4**  
**Animal Unit Month Supply/Demand**  
**Fremont County**



## AFFECTED ENVIRONMENT

not only been brought about by the current economic situation, but also by a phenomenon termed the "cattle cycle." This cycle is based primarily on beef cattle market conditions. It is best explained in a publication entitled *Beef Cycles: A Clue to the Current Cattle Outlook* (Agricultural Extension Service, University of Minnesota 1976).

**TABLE 3-3**  
**REVENUE CHARACTERISTICS**  
**OF TYPICAL SMALL, MEDIUM,**  
**AND LARGE RANCHES IN THE**  
**LANDER RESOURCE AREA**

	Small (\$)	Medium (\$)	Large (\$)
AUs	158	802	3,292
Sales			
Heifer Calves	3,730	22,144	90,341
Steer Calves	8,091	28,499	117,295
Heifer Yearlings	5,706	22,022	92,184
Steer Yearlings	3,049	41,407	170,444
Cull Cows	2,887	15,684	65,228
<b>Gross Revenues</b>	<b>24,275</b>	<b>129,750</b>	<b>535,491</b>
Variable Costs			
Feed	1,506	11,445	40,963
Hay Management	1,543	11,520	28,562
Labor	0	10,513	100,587
Other	3,887	9,112	35,708
<b>Total</b>	<b>6,936</b>	<b>42,590</b>	<b>205,820</b>
Fixed Costs	5,303	14,262	32,523
Return to Land, Labor and Capital	12,036	72,898	297,148

The cyclical nature of the beef industry stems from man's economic characteristics and the beef industry's physical characteristics. The key characteristics are: (1) the price of beef is determined largely by its relative supply; (2) beef producers—both cattle feeders and feeder producers—tend to base their price expectations

on current prices; (3) it takes 2 to 3 years to reflect an expected price change into the desired change in livestock marketing; and (4) beef marketings actually move in the direction opposite from that desired. These cycles tend to last about 10 years. The cycle appears to be on the upturn, having bottomed out during 1979.

By analyzing these cyclic movements (due to differences in market influences, these cycles do not affect sheep production), one can gain a better understanding of the economic situations faced by cattlemen. Changes in methods of operation imposed on operators during low points in the cycle might force many individuals out of business.

**Government Sector.** BLM's grazing fee in 1984 was \$1.37 per AUM. During that year, an estimated \$316,000 was collected from operators in the Lander Resource Area. Grazing fees collected for permits issued in accordance with Section 3 of the Taylor Grazing Act of 1934 are distributed as follows: 50 percent to range betterment projects, 37.5 percent to the U.S. Treasury's general fund, and 12.5 percent returned to the state where collected. Grazing fees collected for leases issued in accordance with Section 15 of the Taylor Grazing Act of 1934 are distributed as follows: 50 percent to range betterment projects and 50 percent returned to the state where collected.

**Sociocultural Attitudes.** Families of ranch operators in the study area are characterized by a set of distinct attitudes and values. Ranching families have retained the outlook that is usually associated with rural, agrarian populations. They emphasize the importance of independence, self-reliance, and outdoor work, while distrusting government regulations, urban interdependence, and industrial occupations. Ranch families cling to what they conceive as a western way of life, one which they inherited from pioneer settlers. Despite rather low financial returns from ranching, they persist in ranch lifestyles. In doing so, ranchers express what has been labeled ranch fundamentalism, the belief that ranching leads to a higher state of well-being than an alternative way of life (Smith and Martin 1972).



## PART D

# ENVIRONMENTAL CONSEQUENCES

## PREDICTED LONG-TERM FORAGE PRODUCTION

Figure 4-1 shows an estimate for both existing (1985) and predicted forage production (20 years after management actions would be taken). This figure graphically presents the data from table B-7 in Appendix B. Total long-term production for all allotments under Alternative A is predicted to be between 113,575 and 144,072 AUMs. For Alternative B, predicted long-term production would be between 107,920 and 137,588 AUMs. Long-term production for Alternative C would be between 113,575 and 140,953 AUMs.

### Predictions for I Category Allotments

According to these estimates (see figure 4-1), I category allotments produced 39,185 AUMs in 1985. If the management actions under Alternative A were implemented, production on I category allotments would increase to a range of approximately 41,528 to 44,676 AUMs, a 6 to 14 percent increase. If no action were taken on I category allotments (Alternative B), production would decrease to a range of approximately 38,233 to 35,832 AUMs, a 2 to 9 percent decrease.

Estimates from Alternatives A and B show production in a range that is predicted to occur in 20 years. The rapidity of these changes would depend on the rate at which management actions and range improvement practices are implemented. For example, sagebrush burning would result in an immediate and dramatic increase in production, while implementation of a grazing system would result in a slow, steady increase. These production estimates (predictions) were made by using all available data for the individual allotments, including information derived from consultations with the livestock operators. The analysis used to predict future production

included the kind of livestock using the allotment, season of use, precipitation zone, livestock distribution, suitability for livestock grazing, present range condition and forage production, possible range improvements for the allotment, and a prediction regarding apparent trend (up, down, or static).

Estimated production for Alternative C is not shown on Figure 4-1. This alternative would result in an increase in forage production compared to Alternative B, No Action. However, production for Alternative C would not be higher than Alternative A, because this alternative does not address the majority of the issues in the study area (livestock distribution, improper season of use, turn-out dates that are too early, and lack of grazing management).

Production under Alternative C would be between 35,832 AUMs and 41,528 AUMs.

### Predictions for M Category Allotments

In 1985, 66,192 AUMs were produced in M category allotments. Production is predicted to be between 66,192 AUMs and 92,847 AUMs in the long term. The higher AUM figure shows the production potential if the entire allotment were in excellent (climax) ecological condition. The lower figure is the current estimated production. Since it is unlikely that climax condition on the entire allotment would ever occur, the actual production in 20 years would be somewhere between the two figures shown but would not likely ever reach the higher figure.

### Predictions for C Category Allotments

Production in C category allotments, in the long term, is expected to remain at 6,578 AUMs.

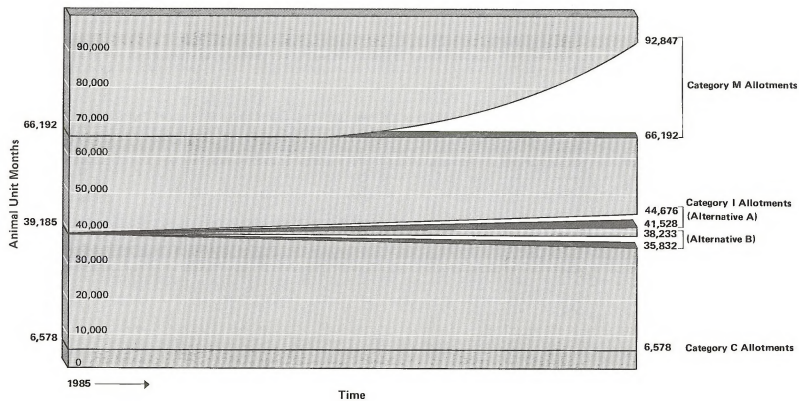


Figure 4-1  
Predicted Long-Term Forage Production

# ALTERNATIVE A - IMPROVE RANGELAND, WATERSHED AND WILDLIFE HABITAT CONDITION

## Vegetation

### Assumptions and Assessment Guidelines

Impacts on the vegetative resource, in I, M and C category allotments, are based on predicted changes in production and range condition toward or away from climax conditions. Although some use adjustments would occur in the short term (within 1 to 5 years after implementation of the proposed management actions), the majority of the adjustments would occur over the long term (6 to 25).

Monitoring programs would be implemented in all I category allotments in order to quantify the problems and to determine the kind and amount of adjustments needed. AMPs would be developed for these allotments.

The monitoring program would cause some delays before specific on-the-ground corrective actions would be implemented.

## Impacts

### Category I Allotments

Areas that have been declining in range condition and productivity would continue to decline in the short term until AMPs are implemented. Impacts related to implementation of AMPs would depend on the specific corrective actions undertaken. These possible actions are described below.

Specific grazing systems and adjustments in turnout dates and season of use would be designed to provide rest and/or deferment from grazing of the vegetation. Adjustments in stocking levels and range improvements such as water developments and fencing would bring utilization levels within acceptable limits (see factor 2 Proposed Action and current grazing management situation in the Affected Environment).

Periodic rest or spring deferment from grazing would improve range condition. The adverse

effects of continuous spring grazing would be reduced or eliminated by alternating or deferring use during this critical plant growth and reproduction period (Hormay 1970). This would improve vegetative composition and diversity, increase production and improve the ecological condition of the range.

Adjustment of turnout dates would allow key forage plants to begin to store food in their roots thus improving plant vigor (Stoddard, Smith, and Box 1975). Adjustment of turnout dates, based on range readiness, would also help prevent permanent damage to vegetation and would improve overall vegetative conditions. Grazing would be delayed until the soil was firm enough to avoid severe compaction. Compaction of wet soil would result in reduced moisture infiltration from precipitation and reduce air supply to roots and germinating seeds. This problem would be more evident along streams, in meadows and on steeper slopes.

Water development projects and fence construction would improve the distribution of livestock over the entire area and promote a more even utilization of the forage (see factors 2 and 4, Proposed Action, and current grazing management situation in the Affected Environment). Proper utilization of forage (50 percent of total annual production) would be important in maintaining or improving the vegetative vigor, production and range condition. Properly placed water developments, combined with grazing systems, would cause the livestock to move from the overused areas around existing water sources, allowing these areas to improve in vigor and production.

Burning or spraying brush species would be designed to enhance productivity of the herbaceous vegetation. Approximately 9,200 acres on nine allotments would be identified for this kind of treatment (see table B-8, Appendix B). Once established, brush species such as big sagebrush (*Artemisia tridentata*) are very tenacious and long lived. Uncontrolled competition from these brush species for water and nutrients would reduce the potential productivity for the plant community as a whole (see factors 7, 8 and 9, Proposed Action, and current grazing management situation in the Affected Environment).

Burning or spraying of sagebrush and seeding grasses would be used to modify these vegetative types. The exact change in composition from sagebrush-grass to grasses and forbs cannot be predicted because of variation in the range sites. However, spraying has reduced big sagebrush by 67 to 100 percent in some areas (Blaisdell and Mueggler 1956). Burning of sagebrush in one

## ENVIRONMENTAL CONSEQUENCES

experiment produced a 90 percent increase in production of grasses and forbs (Pechanec, Stewart, and Blaisdell 1954). Seeding of crested wheatgrass has shown an increase in production of several fold over native production (Cook 1966).

More intensive management to reduce grazing pressure on riparian zones would improve condition and production on these important grazing areas (see factor 4, Proposed Action, and current grazing management situation in the Affected Environment). This would increase the number of cottonwood and willow saplings and improve streambank condition.

On areas where grazing pressure has been high, such as in meadow areas, grazing systems and water developments would be used to reduce grazing pressure.

On some riparian areas, total exclusion of livestock may be necessary for several years to allow regeneration of the woody vegetative component (willow and cottonwoods). Up to 5 years of total exclusion may be necessary for the vegetation to reach a height that would adequately protect it from grazing and provide adequate stream bank cover and protection. These subirrigated sites would respond rapidly because of their high potential and because of the high amount of moisture available.

Actions would be taken on allotments where surface disturbing activities such as mining and oil and gas drilling have been reducing the total acreage of grazing land (see factor 6, Proposed Action, and current grazing management situation in the Affected Environment). The disturbed surface would have to be rehabilitated as soon as possible. In the short term, livestock use would be adjusted on such areas until rehabilitation occurred. If these management actions were not taken, the remaining forage would be overused and productivity and range condition would decline.

On allotments with a potential for damage from ORV use, seasonal closures would prevent serious damage during wet periods in the spring (see factor 6, Proposed Action, and current grazing management situation in the Affected Environment).

All of these range improvement actions would be designed to enhance the vegetative resource. The amount of change would vary within the different range sites, but desirable forage productivity would increase on I allotments by 6 to 14 percent over current estimated production (see table B-7, Appendix B and figure 4-1).

Adverse impacts would be the unavoidable loss of vegetation immediately around water sources because of concentrated livestock use and trampling, and where herbicides have been used, desirable forbs might be lost from the vegetative community for the short term.

### Category M Allotments

Monitoring and subsequent management actions would not be initiated in the short term in M category allotments. In the long term and in the worst case, present productivity and range condition would continue in M category allotments. Productivity and range conditions would improve. Estimated long-term production area wide would fall between 66,192 AUMs and 92,847 AUMs, a 10 to 55 percent increase over current estimated production (see table B-7 in Appendix B for estimated productivity on individual M allotments and figure 4-1). Some small areas within these allotments could be overused and vegetation would deteriorate.

Overall, present vegetative conditions in M category allotments would remain the same or improve in the short and long term.

### Category C Allotments

Management actions would be taken on Category C allotments only if specific problems were detected. For example, fencing of high-value wetlands that have been degraded by livestock. Otherwise, under this alternative, areas within these C category allotments where vegetative conditions have been declining, would continue to decline and those areas in an upward trend would continue to improve. Overall, estimated productivity on C allotments would remain unchanged at 6,578 AUMs (see table B-7, Appendix B and figure 4-1).

## Soils and Watershed

### Assumptions and Assessment Guidelines

The following general assumptions were used in determining and analyzing the environmental consequences for soils and watershed.



## ENVIRONMENTAL CONSEQUENCES

- The short-term time frame would be 5 years, and the long-term time frame would be 6 to 25 years after implementation of proposed management actions.
- Impacts to soils can vary considerably, depending on the extent and location of actions proposed.
- Quantitative sediment yield estimates by allotment or by alternative would be statistically unsound and impractical to make because of the general nature of sediment yield data available for the study area and the variability of impacts by allotment and alternative. General sedimentation trends are discussed by alternative.

### Impacts

#### Category I Allotments

Unsatisfactory soil and watershed conditions occur on all category I allotments (see tables B-3, B-4 and B-5, Appendix B). Improvement in these conditions would occur in the long term if management actions described below were implemented. In the short term, this alternative would allow continued deterioration of soil and watershed resources prior to and during monitoring.

The following management actions would be implemented to improve soil and watershed conditions.

1. Grazing treatments such as periodic rest or spring deferment would improve soil and watershed conditions by reducing the effects of livestock trampling and increasing vegetative cover.
2. Adjustment of turnout dates, based on range readiness, would help prevent permanent damage to soil and watershed resources. Grazing would be delayed in the spring until the soil was firm and dry enough to avoid significant soil damage. Reducing livestock trampling would reduce soil compaction, increase soil structure stability, increase soil infiltration, and increase plant litter accumulation. Impacts would be more evident on heavier soils along streams, in meadows, and on steeper slopes.
3. A decrease in livestock trampling would have the following effects on soils and watershed resources:

A reduction in soil compaction (Lull 1959 and Packer 1961), resulting in decreased bulk den-

sity and increased soil porosity (Rauzi and Hanson 1966).

Increased soil structure stability (Rauzi and Fly 1968).

Increased soil infiltration (Woodward 1943).

Increased plant litter accumulation by as much as 2.5 times on lightly grazed areas compared to heavily grazed areas and a long-term increase in organic matter and fertility (Rauzi and Hanson 1966).

Significant reductions in erosion and sedimentation in the short term. In the long-term, less significant reductions as soils recovered from surface disturbance.

Improved water quality in areas adjacent to stream channels or water sources.

Adjustment of turnout dates would also increase vegetative cover in areas where the potential for soil erosion and sedimentation was high. Splash erosion, sheet erosion and sedimentation would decrease as a result of increased vegetative cover. The extent and significance of increases in vegetative cover would depend on the natural potential of affected sites.

Adequate vegetative cover is a main factor in reduction of sedimentation. An increase of vegetative cover would reduce erosion and sedimentation in the following ways.

Splash erosion from raindrops would decrease, with a correlated decrease in sedimentation (Branson and Owen 1970).

Sheet erosion would decrease, especially on medium and fine textured soils (Packer 1961).

Water development projects and fence construction would improve livestock distribution and improve soils and watershed resources. The short-term effect of these actions on soils would be an increase in sedimentation, but the long-term effect would be a reduction in sediment in the allotment as a whole, because of improved livestock distribution.

Aerial spraying of sagebrush with herbicides would not have a significant effect on soil or watershed resources. In the worst-case scenario, a short-term increase in soil erosion and sedimentation, because of reduced vegetative cover, could occur. In the best-case scenario, no increases in soil erosion or sedimentation would occur. For the long-term, the impacts on soils from sagebrush spraying would be a decrease in erosion and sedimentation. Reductions in erosion and sedimentation would occur on the revegetated areas and on adjacent areas where livestock



## ENVIRONMENTAL CONSEQUENCES

grazing pressure had been reduced because of increased forage and improved livestock distribution.

An improvement in soil and watershed resources would occur in riparian areas where fencing or other measures would be used to control or exclude livestock. This would reduce trampling, increase vegetative cover and improve streambank stability. Specific improvements in soils and watershed resources would depend on the management action used. Improvements would be substantial because of the historically heavy use in riparian areas. Improving streambank stability would not only help improve soils and reduce erosion in fenced riparian areas, but it would also help to improve the overall watershed condition, improve water quality, and reduce downstream sedimentation.

Generally, a reduction in livestock trampling, improvement in vegetative cover and composition, and improved streambank stability would occur with implementation of this alternative. These improvements would reduce accelerated soil erosion, reduce sedimentation, improve soil and watershed conditions, and improve water quality.

### Category M Allotments

Under this alternative, soil and watershed resources would not be significantly affected in the M category allotments. Generally, these allotments are in satisfactory condition: the rate of soil formation is greater than the rate of soil loss from erosion. This is probably the case on more than 99 percent of the total acreage of M category allotments, or 650,000 acres.

On some small areas within the M category allotments, riparian or meadow vegetation areas, some accelerated soil erosion, with resultant sedimentation and degraded water quality has been occurring. This would not be expected to change significantly unless a serious conflict or problem were identified. For example, corrective action would be taken if excessive sedimentation of a municipal water supply were possible.

### Category C allotments

Under this alternative, soil and watershed resources would not be significantly affected in the C category allotments. The rate of soil formation is greater than the rate of soil loss through erosion throughout most of the study area. There are some areas of meadow or riparian vegetation where livestock impacts are accelerating the rate of erosion and sedimentation and

lowering water quality. The actual amount of acreage affected is unknown; however, it probably would not be more than 5,000 acres, or 5 percent of the total C category acreage.

## Livestock Grazing

### Assumptions and Assessment Guidelines

The short term is defined as from the completion of monitoring and management action implementation to the point when range condition begins to improve (approximately 1 to 5 years). The long term extends from that point to approximately 25 years after implementation. Also, it is assumed that all the licensed AUMs are actively being used by the operators.

### Impacts

#### Category I Allotments

In Category I allotments, short-term, adverse impacts similar to those affecting current use might continue while monitoring studies and decisions were being implemented. Long-term monitoring on these allotments may indicate that livestock use would need intensive management in areas of heavy use. Exclusion of livestock from some areas may be required to improve range conditions. If exclusions or reductions in livestock were required after monitoring studies had been completed, hardships would be experienced by some operators who would be forced to reduce their herd size or purchase additional AUMs of forage from outside sources.

Some of the operators in the study area would be adversely affected by varying turnout dates because advance commitments on the number of livestock and date of delivery must sometimes be made. Delivery dates of livestock trucked in from other areas could not be made until a turnout date had been established. Further, the operator would have to leave his livestock on his property during the important spring growing period, lease additional pasture or feed more hay.

Some grazing treatments in the Category I allotments may temporarily exclude areas from grazing, causing operators to shift livestock to other areas or reduce herd sizes. Areas that would be sprayed for sagebrush or burned to increase grass and forb production would have to be rested

## ENVIRONMENTAL CONSEQUENCES

to establish desired plants. During that time, other sources of forage or reduction in herd size would be required.

### Category M Allotments

In Category M allotments, very little or no impact would occur on livestock operators in the short term. Livestock numbers would probably remain the same or increase. In the long term, operators might benefit from increased forage for livestock grazing and increased flexibility in methods of operation.

### Category C Allotments

Livestock operators with Category C allotments would experience many of the same impacts as those with Category M allotments, except that increases in forage available for livestock would probably not occur.

## Socioeconomics

Under this alternative, the extent of social or economic impacts to individual operators would depend on the individual operator's reliance on public land as an input to his operation, the availability of the operator's alternatives to BLM actions, and the operator's subsequent response to those actions. Alternative A would not result in regional, social or economic impacts (see Appendix C for a more detailed analysis of management alternatives).

## Wildlife

### Assumptions and Assessment Guidelines

The short-term time frame is 1 to 5 years after implementation of the proposed management action.

The long-term time frame is 6 to 25 years after implementation of the proposed management action.

## Impacts

### Category I Allotments

Continual grazing during the same season year after year has caused wetland and riparian habitat within many of these allotments to fall below their potential to support a more abundant and diverse wildlife community. These areas would remain below their potential until adequate measures (intensive grazing systems, better water distribution, etc.) were taken to alleviate the problem.

Manipulation of vegetation could be used to the advantage of both livestock and wildlife. Vegetative manipulation projects could be used to provide more high-quality upland forage that would improve big game summer range and attract some of the grazing pressure away from the higher priority riparian habitats.

As adjustments in grazing use and/or stocking levels were made, short-term and long-term benefits would be derived. As the vegetative resource improved, the increased variety in plant species composition and structure would permit a more diverse wildlife community. Some wildlife species prefer a more open, heavily grazed condition and might be adversely affected by the improved vegetative condition. However, these impacts would be minimal when compared to the overall advantages proper grazing levels would provide.

In the short term, competition for available forage between grazing animals would continue, and the condition of big game habitat on Category I allotments would either remain unchanged or gradually deteriorate (see factor 3, Proposed Action, and current grazing management situation in the Affected Environment). In the long term, the condition of big game habitat would probably improve on most Category I allotments.

If livestock use were adjusted, either through a redistribution of grazing pressure or by reducing numbers, forage competition among grazing animals would be reduced and the availability of forage for big game would increase. Implementation of grazing systems would help improve the condition of big game habitat in some cases. In order to achieve specific objectives for improving habitat condition on particular sites, various grazing treatments involving rest, deferment or other seasonal grazing restrictions could be incorporated into the design of the grazing system.

## ENVIRONMENTAL CONSEQUENCES

Fall and winter livestock grazing might prevent significant improvement of habitat condition on some antelope and mule deer winter ranges. Browse species essential to wintering antelope and mule deer are most palatable to grazing animals during the fall and winter seasons. When preferred grasses become dormant in the fall, livestock use browse species extensively. Under these circumstances, the condition of winter range habitat would probably not improve.

Vegetative manipulation projects would adversely affect habitat condition if the availability of forage or cover were reduced on big game ranges. Projects undertaken on winter ranges or on calving and lambing areas would have the greatest potential to adversely affect big game habitat. For example, reducing browse or forbs on dry areas of summer range where antelope densities are low would have little effect on overall antelope habitat condition; however, any reduction of browse on crucial winter ranges might result in significant winter mortality. In some cases, however, projects could be located and designed to increase the availability and quality of forage and cover. On elk and bighorn sheep ranges, projects designed to increase forage for cattle might enhance habitat condition for elk and sheep because of the similar forage preferences of these species. Specific treatment methods such as prescribed burning might enhance forage quality for mule deer on winter ranges. On summer ranges and some areas of yearlong range, habitat condition would be enhanced if the treatment method increased the proportion of forbs in the composition of the vegetation. On moose ranges, habitat condition might be improved by designing projects to promote the regeneration of cottonwood, aspen and willow vegetation, which would provide additional food and cover for moose.

Many of the shrubs that are undesirable to livestock support relatively diverse wildlife communities. Removal of blocks of shrubs would adversely affect the majority of the wildlife species that are dependent on the shrub canopy for reproduction and/or foraging. In addition, shrublands provide valuable seasonal habitat requirements for many of the major species, including elk, mule deer, pronghorn and sage grouse.

Changes in utilization rates and shifts in livestock distribution proposed under this alternative might alleviate some of the pressure on high priority habitat sites. Reduced utilization of big game crucial ranges would be beneficial in maintaining these important habitats within grazing capacities.

Under this alternative, range improvement projects would have highly variable effects on grazing animal distribution and thus on big game habitat. Water developments located on preferred habitat types in big game winter ranges might lead to concentrated grazing pressure and reduced availability of winter forage on these ranges. Water developments located away from important winter ranges might lead to lighter grazing pressure and increased availability of winter forage on these ranges. On marginal habitat areas where a lack of water limits use by antelope or mule deer, new water developments would increase the availability of suitable habitat and improve the distribution of existing populations. The additional water might create a localized shift in the big game populations. However, water is not considered an overall factor limiting the size of the present populations. Upland game birds, waterfowl and shorebirds would readily use these new developments, and some localized increases in breeding populations might occur.

Implementation of grazing systems and/or fencing would produce long-term benefits to the wildlife community by allowing more uniform grazing patterns and/or protection of important wildlife habitats. Properly designed grazing systems would allow a positive vegetative response and thus support a more abundant and diverse wildlife community. However, with increased fencing of the public lands, there could be negative impacts to some species of wildlife (i.e., big game) even with BLM type I fence standards.

Sage grouse habitat probably would improve slightly under this alternative. On important brood-rearing areas such as the riparian habitat types, construction of livestock enclosures and implementation of grazing systems might increase the availability of succulent forage and protective cover. In portions of allotments with strutting/nesting complexes, there would be a reduced probability of nest trampling if fewer livestock used these areas during the nesting period. Increasing livestock numbers, however, would increase the probability of nest destruction.

Since sage grouse are usually found near water, new water developments may increase the availability of suitable sage grouse habitat. The availability of suitable habitat would be reduced, however, if vegetative manipulation projects were used to remove sagebrush cover, especially if such projects were undertaken on sage grouse winter ranges or strutting/nesting complexes. The proposed reclamation of disturbed areas could

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increase the availability of suitable sage grouse habitat if stands of big sagebrush were reestablished.

Blue and ruffed grouse habitat could also improve under this alternative. Overgrazing and trampling of herbaceous understory vegetation would be reduced along forest edges, thereby improving the quality of nesting and brood-rearing habitat for these species. However, any reduction of shrub cover in these areas because of vegetative manipulation projects might reduce habitat quality.

Wetland-riparian habitat used by waterfowl would not improve significantly on Category I allotments, except in some small areas where livestock enclosures or riparian pastures were constructed. In some cases, stockwater development might result in the creation of new waterfowl habitat areas.

Adjustment of turnout dates could help increase forage availability for big game during early spring. The nutritional needs of wild ungulates are very high at this time and substantial quantities of green plants are required (Mackie 1978). In addition, adequate nutrition is an important factor in the birth and survival of young animals.

Proper turnout dates and season of use would produce a positive response in the vegetative community. The short-term effects of changing turnout dates or season of use would be limited because of the time needed for monitoring. However, long-term benefits to wildlife could be substantial. Added cover and any increased structural diversity would provide added abundance and species diversity within the wildlife communities. After sufficient data have been collected to determine adjustments in turnout dates and/or season of use, it would take a number of growing seasons before the advantages (increased vegetative structure and diversity) could be realized.

Without considering the impacts of livestock grazing on wildlife habitat, other land-use conflicts are having a significant impact on wildlife communities through loss of forage, cover, and through the presence of additional human intrusions. These habitat losses are assessed in the RMP Environmental Consequences under the heading of Wildlife Resources, and Management Actions for Energy and Minerals. Since wildlife habitat is already being impacted, any additional stresses from livestock grazing become more critical to maintaining wildlife populations.

During the short term or monitoring phase under this alternative, there would be no real short-term benefits in wildlife habitat where the

range has been degraded. Overall, conditions would remain unchanged or decline. Areas incurring abnormally high erosion rates would continue to lose site potential if the soil loss tolerance level were exceeded. If this occurred, the vegetative community might never realize either its former potential or its ability to support wildlife.

In the long term, if the grazing pressure could be adjusted to minimize impacts of compaction, trampling and accelerated erosion rates on degraded rangeland areas, an improvement in wildlife habitat could occur. The degree of recovery would depend on how far below potential various range sites are. If adjustments could be implemented to minimize impacts, the habitats that would improve most noticeably and in the shortest amount of time would be overgrazed stream bottoms, springs and seeps causing a beneficial wildlife impact.

### Category M Allotments

Generally, Category M allotments contain diverse vegetative communities that provide the structural diversity needed to support abundant wildlife communities. Management actions on M category allotments would cause little change in the effects of present management on wildlife resources.

### Category C Allotments

The proposed management actions in the Category C allotments would cause little change in the effects of present management on wildlife resources, since use supervision and monitoring would be low intensity. If habitats were deteriorating as a result of grazing management, they would probably continue to do so, except where problems became acute or permittees or livestock operations changed, thus precipitating more intensive monitoring and eventual corrective action.

In summary, category M and C allotments would generally experience little change in the present management situation. The Category I grazing allotments would have the greatest potential for improvement in the long term through range improvement projects and proper grazing management. Important riparian areas degraded by heavy livestock use could be greatly improved using proper management techniques.

The East Fork elk winter range would not be affected by this alternative because livestock grazing has been excluded in that area.



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The Whiskey Mountain bighorn sheep winter range would not be significantly impacted beyond the present annual use level of 67 AUMs in allotment 2126 and 144 AUMs in allotment 2124.

### Fisheries

#### Assumptions and Assessment Guidelines

In this analysis the following definitions have been used.

- Positive effect: (1) a reduction or reversal of the rate of habitat degradation, (2) an increase in the rate of habitat improvement, or (3) the creation of new habitat. A positive effect would not necessarily mean that habitat quality or quantity would increase in the future. The term positive effect only means improvement over the existing situation.
- Neutral effect: when there is no change in rate of habitat degradation or improvement.
- Negative effect: an increase in the rate of habitat degradation or a decrease or reversal in the rate of habitat improvement.

Standing water habitat for game fish on public lands in the study area would probably not be significantly affected by any type of wild grazing animal. Wild ungulates cause insignificant (less than 5 percent) damage to stream banks in the study area, therefore, impacts caused by wild ungulates will not be in this analysis.

In order to analyze the consequences of the Proposed Action and alternatives, five variables and the effects of these variables on game fish habitat have been predicted. These variables are:

- Variable 1. The number of miles or acres of game fish habitat under special management for improvement.
- Variable 2. The number of cattle on the range.
- Variable 3. The number of sheep on the range.
- Variable 4. The number of stock-watering reservoirs with game fish stocking potential.
- Variable 5. The number of watershed acres in good condition.

These variables could be increased or decreased by the range management actions discussed in this document. These variables were selected because if changed, they could affect fish habitat.

Variable 1 is the most important. With special management (temporary or permanent fencing and implementation of special grazing systems), ungulate-damaged aquatic habitat could be significantly improved. Without management specifically designed to protect and improve ungulate-damaged aquatic habitat, little could be done to upgrade these areas. The effect of the Proposed Action on the amount of habitat under special management in the study area would probably be dependent on changes in the numbers and objectives outlined in BLM's allotment management plans (AMPs). Results of intensive monitoring studies might also lead to inclusion of some ungulate-damaged aquatic habitat under a Habitat Management Plan (HMP).

Adjustments in numbers of cattle and sheep (variable 2 and 3) could affect aquatic habitat. Minor to moderate adjustments in the numbers of cattle alone would generally not affect the level of aquatic habitat damage, because cattle movements are uncontrolled and cattle tend to use the water's edge heavily at almost any population level. Large reductions in numbers of cattle or removal of cattle could be very beneficial to cattle-damaged aquatic habitat. Sheep movements are usually much more controlled than cattle movements and sheep are usually directed away from the water's edge by herders. As a result, sheep tend to do less bank damage than cattle. Therefore, conversion to sheep could significantly decrease ungulate damage to aquatic habitat.

Reservoirs, if constructed with fishery benefits in mind (variable 4), could increase the amount of habitat present. Reservoirs could be constructed that would be larger than needed for livestock watering. Larger reservoirs would have increased longevity, and create fisheries habitat which would also improve benefit-cost ratios.

A watershed in good condition (variable 5) produces less stream turbidity and less siltation of stream, lake and reservoir bottoms. Siltation and turbidity are important factors affecting the quality of game fish habitat. In addition, flooding and stream channel erosion are held to a minimum by well-vegetated watersheds. Watershed conditions affect sediment yield, which in turn affects the longevity of reservoir habitat. Therefore, the better the watershed condition, the longer a reservoir can support fish.

In this analysis, short-term effects are those that would be realized in less than 10 years. Long-term effects would be realized after 10 years.

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### Impacts

Three of five of the trout streams damaged by livestock (table 3-1, map 3-12 of Affected Environment in the RMP/EIS) and a portion of a fourth trout stream are in I category allotments. A portion of the East Fork of Sage Hen Creek and all of Dry Creek are in an M category allotment (table 4-1). There are no trout streams in the C category allotments.

Under this alternative, improvement of trout stream habitat through the grazing program would occur over the long term. Those stream sections that are in I category allotments would eventually be treated to reduce livestock damage and improve fisheries. Methods would include grazing systems or fencing of stream riparian areas. For those stream sections in M category allotments, range monitoring and eventual habitat improvements would still be possible, but not likely.

Over the long term, beneficial effects on the fishery in the Wind River and habitat improvement of 5.5 miles of small trout stream could occur under this alternative. Over the short term, the effect on stream fisheries would be neutral.

Under this alternative, two I allotments (numbers 2121 and 2112) would be evaluated to determine the possible effects of livestock grazing on sediment production from the Dubois Badlands. This sediment degrades important fish habitat in the Wind River.

Range improvements such as stockwater reservoirs would help reduce the amount of sediment reaching the Wind River. The probability of development of reservoirs capable of supporting stock trout is moderate to high over the long term for category I allotments.

### Cultural Resources

#### Assumptions and Assessment Guidelines

Livestock grazing involves slight ground disturbance over vast areas and more intensive disturbance on small areas. The basic effect of livestock grazing results in levels of impact varying from slight over the majority of the area to possibly high for heavy use areas such as around water sources. The factors of the environment and geography that influenced the location of prehistoric and early historical sites are also factors that influence the effects of livestock

grazing. These factors, including availability and sources of water and diverse plant resources, while increasing the probability for a cultural resource to exist, also increases the intensity or concentration of livestock use and, thus, increases the potential for livestock related damage to cultural resources in such areas.

The type of livestock use that primarily affects cultural resources is trampling, with its resultant soil compaction and churning and the reduction of vegetative cover. These effects on cultural resources are slight when livestock are dispersed on open range. However, these effects become severe when livestock and other grazing animals concentrate in a small area such as an open spring or wet drainage. The adverse effects experienced include alteration of cultural site integrity and breakage of individual artifacts. These effects can be direct or indirect as a result of erosion or other processes that have been accelerated as a result of grazing animals.

### Impacts

This alternative would provide for more intensive management of livestock use, including protecting riparian areas from excessive grazing use. As a result, the environmental consequences of this management action would be beneficial.

Cultural resources are often located near riparian areas (because of favorable environmental situations), and reduced grazing pressure on riparian areas would cause beneficial impacts to cultural resources. Cattle trampling, a potential adverse impact, especially near riparian areas, would be less severe, which would help preserve the integrity of riparian area sites.

### Recreation

#### Assumptions and Assessment Guidelines

The primary livestock grazing impact on recreation occurs in riparian zones. For example, the degradation of the streambank vegetation by livestock has a direct effect on visual resources, camping, picnicking and fishing opportunities, and the overall recreational experience. The locations that people seek for camping (relatively level ground, water, shade) are the same locations that livestock seek as bedding grounds. Aesthetics can be greatly depreciated by trampled or



## ENVIRONMENTAL CONSEQUENCES

**TABLE 4-1**  
**CATEGORIZATION AND MONITORING PRIORITY**  
**OF TROUT STREAMS IN THE STUDY AREA**

Allotment Numbers	Stream	Category	Monitoring Priority	Approx. Miles
1509, 1614	East Fork Sage Hen Creek	I, M	Medium, Low	2.0
1509	Middle Fork Sage Hen Creek	I	Medium	0.5
1509	Sage Hen Creek	I	Medium	0.5
1614	Dry Creek (Trib. Sweetwater)	M	Low	2.0
1347	West Fork Dry Creek (Trib. Badwater)	I	Low	0.5
<b>Total</b>				<b>5.5</b>

denuded vegetation and the smell and nuisance of cow pies. Fishing opportunity is dependent on a healthy stream condition.

In some cases, grazing reduces the desirability of a site to such an extent that recreationists choose not to use the area. However, in some cases, recreationists and livestock can coexist on the same site if use by either one is not too heavy. Generally, moderate changes in livestock use in nonriparian allotments do not adversely affect recreation to any great degree.

Other grazing impacts are related to wildlife and associated hunting and fishing opportunities, visual resources and other recreational opportunities.

### Impacts

This alternative would have a minimal overall impact on recreation. Use patterns and opportunities would remain unchanged. Use volumes would be relatively unaffected, unless range improvements resulted in increased wildlife populations. Increased populations would translate into increased hunting opportunities and increased opportunities to view wildlife. If big game populations increased to Wyoming Game and Fish Department strategic plan levels, some increase in hunting opportunities and quality would result.

Increases in the number of fences under this alternative could decrease mobility and freedom of movement for recreational activities in the area. With more fencing and other improvements, some people would perceive the area as less wild and natural, with less open space.

New roads developed to service range improvements would increase mobility and freedom of movement for recreational activities.

In general, windmills, fences and livestock are part of the western range landscape, and are not normally thought of as intrusions. However, range improvement projects associated with this action could cause some minor impacts to the visual resource. For example, if new fences, roads or water developments were located on ridges or hilltops, they would be quite noticeable and would detract from the natural appearance of the landscape. If, on the other hand, they were located so that they were not silhouetted against the sky, their impact would be relatively minor.

## ALTERNATIVE B - NO ACTION - CONTINUATION OF PRESENT MANAGEMENT

### Vegetation

BLM would not set management priorities on allotments under this alternative. Present management is essentially one of reaction, where management actions are taken at the request of livestock operators, the Wyoming Game and Fish Department or other affected groups. Such actions could include structural and nonstructural range improvements, changes in kind of livestock or season-of-use, adjustments in numbers of livestock, or implementation of grazing systems.

## ENVIRONMENTAL CONSEQUENCES

These actions would not be taken under any specific management plan, but would be done as needed.

Fifty-three allotments (656,401 acres) would continue in a static or improving vegetative trend. Thirteen allotments (163,146 acres) with declining vegetative trend would continue to deteriorate. Forage production would remain near present levels in the M (66,192 AUMs) and C category (6,578 AUMs) allotments under this alternative. Most I category allotments would generally experience a 2 to 9 percent decrease in production (see table B-7 in Appendix B).

### Soils and Watershed

No significant changes from the existing situation would occur under this alternative. Since there would be no management priorities based on categorization, there would be no significant change in management or impacts in I, M or C category allotments.

With the M and C category allotments, some heavy use areas (e.g., riparian zones and areas of preferred forage) now affected by excessive grazing intensity and poor livestock distribution would continue to deteriorate. There are 18 I allotments in the study area where unsatisfactory livestock distribution is a major problem. However, the impacts of livestock trampling, reduced vegetation cover, accelerated erosion and sedimentation, and streambank disturbance would remain relatively unchanged over the entire study area.

Since range improvement has been aimed at improving livestock distribution and reducing impacts to vegetation, watershed condition in general would improve. Riparian areas and areas of preferred forage would continue to be the most heavily impacted, and accelerated erosion rates and water quality degradation would continue in these areas.

Throughout most of the study area, erosion levels are presently below the rate of soil formation. Continuation of existing management programs would not significantly accelerate erosion or increase sedimentation in the study area, as a whole.

### Livestock Grazing

This alternative offers the least amount of change in present livestock operations. Ninety-seven (812,564 acres) allotments in satisfactory condition would remain in that condition. Allotments that have been improving in range condition would continue to improve.

Thirteen allotments (163,146 acres) in a downward trend would continue to deteriorate, and livestock production in these allotments would also decrease. Reductions in herd size and decreased reproduction rates could occur. In the most severe cases, undesirable and noxious plants would increase, causing health problems in livestock herds. This degradation of the rangeland resource would occur over the long term. This could, in turn, require an eventual reduction of 25 to 30 percent in current authorized livestock grazing use in the I category allotments. The adverse impacts and deterioration in the I category allotments might be offset in some allotments by voluntary nonuse taken by some operators because of fluctuations in the livestock industry.

### Socioeconomics

Under this alternative, the extent of social or economic impacts to individual operators would depend on the individual operator's reliance on public land as an input to his operation, the availability of the operator's alternatives to BLM actions, and the operator's subsequent response to those actions. Alternative B would not result in significant regional social or economic impacts (see Appendix C for a more detailed analysis of management alternatives).

### Wildlife

Under present management, there would be no improvements in the situation for wildlife in the short term. If no changes were made to improve areas heavily used by livestock, forage for big

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game would deteriorate because soil fertility from accelerated erosion rates would be lost in the heavily used areas.

Under this alternative, deterioration of big game habitat in some grazing allotments would continue. Excessive stocking levels in 36 allotments would cause habitat conditions to deteriorate, and reduce forage production and increase competition with big game.

In 18 allotments, distribution of livestock would be poor because of a lack of water or high amounts of unsuitable range for livestock grazing. This would result in excessive use and deterioration of some habitat types crucial to big game, and light use of other habitats that would benefit by some livestock use.

Improper season of use by livestock on 25 allotments (301,057 acres) would cause poor habitat conditions for certain big game species, as well as livestock, where preferred forage species were being reduced or eliminated by continual grazing. In eight allotments (126,863 acres), winter sheep use would be in direct competition with winter antelope or winter mule deer use on important browse ranges. Concentrated winter cattle or horse use in some areas would cause browse ranges that are important to mule deer or antelope for winter forage and cover to deteriorate.

These conditions do not exist throughout the study area. However, if stocking levels were uniform, no new AMPs were initiated, and no system for analysis of management needs and ranking of management attention were initiated, efforts to remedy big game habitat problems would be less effective than possible under Alternative A.

The East Fork elk winter range would not be affected by this alternative because livestock grazing would be excluded.

The Whiskey Mountain bighorn sheep winter range would not be significantly impacted beyond the present annual use level of 67 AUMs in allotment 2126 and 144 AUMs in allotment 2124.

### Fisheries

The effect of this alternative on existing fisheries and development of new fisheries would be neutral. There would be no change in the rate of habitat degradation or improvement since no change from present management would be proposed.

### Cultural Resources

This alternative would continue present management of livestock use. Impacts on cultural resource sites would continue to occur from trampling. This would be most significant in riparian areas and around water developments.

### Recreation

This alternative would have little impact on recreation. In all probability, hunting opportunities would remain essentially unchanged. If wildlife populations decreased, some slight decrease in hunting opportunities and quality would result. Impacts to open space would probably not occur.

## ALTERNATIVE C - ENHANCE WATERSHED AND WILDLIFE HABITAT (REDUCE LIVESTOCK GRAZING)

### Vegetation

Under this alternative, stocking levels for livestock would be set at the next lower range site condition class (i.e., allotments in excellent condition would be stocked as if they were in good condition). As a result, the average area-wide stocking rate would be reduced 42 percent. The overall result would be an improvement in vegetative production in those areas presently being overused. Meadow riparian areas would improve more rapidly than the upland sites the M category would maintain or show a slight improvement in forage production. Improvements in the I and C category the M category would maintain or show a slight improvement in forage production. Improvements in the I and C category allotments would depend on the present condition of the allotment. Generally, condition and trend would improve in all allotments that are in less than excellent condition, while areas in fair and good condition would respond more quickly. The greater the adverse impact that grazing has had on the existing vegetation, the slower the improvement would be from the reduction in livestock grazing. Generally, implementation of this alternative would be beneficial to vegetation

in the study area. Vegetative production would increase, range condition would improve, and trend would be upward.

## Soils and Watershed

Management under this alternative would result in a 42 percent decrease in AUMs available to livestock grazing. Overall, soil and watershed related values would improve in both the short and long term. However, where soil and watershed-related values now exist within acceptable limits, there would be no changes. In certain areas of intense use, this alternative would be very beneficial for the soil and water resource. In allotments where conflicts between livestock grazing and watershed and soils have been identified, this alternative would be very beneficial to soil resources.

## Livestock Grazing

Adopting this alternative would have differing effects on livestock operators in the study area. Those operators highly dependent on public land and whose allotments would be subject to significant reductions would be severely impacted. Other operators who are taking substantial amounts of nonuse would not be significantly affected nor would those in some allotments where present production significantly exceeds use. If this alternative were adopted, the reduction would amount to about 70,000 AUMs within the study area.

Frequently, the value of a ranching operation is based on the number of AUMs on public land that are attached to the operation as a whole. Reductions would adversely impact operations which are dependent on the public land in the study area. The amount of the impact would depend on the size of the operation, the amount of reduction, and the dependency of the entire operation on the public land. The reduction would affect the ranch owner's ability to borrow and, as a result, some operators could be forced out of business.

## Socioeconomics

Under this alternative, the extent of social or economic impacts to individual operators would depend on the individual operator's reliance on public land as an input to his operation, the availability of the operator's alternatives to BLM actions, and the operator's subsequent response to those actions. Alternative C would not result in significant regional social or economic impacts (see Appendix C for a more detailed analysis of management alternatives).

## Wildlife

Under this alternative, reducing livestock numbers would result in improvement of some of the overgrazed areas. The number of livestock in the overgrazed areas would be reduced, but the livestock that remained would still concentrate in lowlands, riparian areas, and around water. There would be some benefit to wildlife (mainly small game and nongame) through improved vegetative condition. Reductions in livestock numbers would not necessarily result in increased wildlife populations, nor would it necessarily resolve wildlife/livestock use conflicts. Total forage supply in the study area is not a limiting factor for wildlife populations in most grazing allotments. Limiting factors in this area include forage and/or cover in crucial habitats, availability of habitat suitable for reproduction, and a wide variety of other factors such as water availability, topographic suitability, human activities, and weather patterns. Landowner tolerance to wildlife use of private land is also an important population limiting factor. Since many conflicts between wildlife and livestock occur in riparian areas and since the livestock would still concentrate in these areas, this conflict would be reduced but not eliminated.

The most evident and rapid increases in availability of food and cover for wildlife would be found in the riparian areas (stream bottoms, springs, seeps, etc.) and on those high-potential upland sites in allotments where actual livestock use (licensed), has been significantly in excess of that necessary to maintain acceptable range

## ENVIRONMENTAL CONSEQUENCES

conditions. In some areas, competition between livestock and wildlife would lessen and habitat diversity would improve over the long term. Other areas would continue to be intensively used and the species diversity, cover, and forage production would decrease. There may be habitat deterioration on sites which are primarily climax grasslands, but which currently support a mixed grass/shrub community because of livestock grazing pressure. Without livestock grazing, the area would eventually return to the climax grassland community which would be adverse to those wildlife species dependent upon shrubs.

In conclusion, Alternative C would benefit wildlife; however, without additional management to improve livestock distribution, optimum wildlife benefits would not be realized.

### Fisheries

Under this alternative, a reduction in grazing pressure could eventually lead to improvement of damaged trout streams. However, a significant decrease in actual use would probably not occur under this alternative, since nonuse often occurs in the allotments involved. Furthermore, trout streams often require several years of total rest or special grazing systems to recover from livestock grazing damage. This would not occur under this alternative, since no AMPs would be developed. The effect on the Wind River fishery would be neutral or positive.

Conclusion. A reduction in livestock numbers could result in some improvement of livestock-damaged trout streams, but more intensive livestock management that employed a rest rotation system on damaged streams would maximize fishery benefits.

### Cultural Resources

A stocking rate decrease would result in fewer adverse impacts on cultural resources.

On areas where existing use would decrease significantly under this action, impacts to cultural

resources would be somewhat beneficial. Cultural sites presently experiencing slight impacts from livestock grazing would continue to be slightly impacted in the future. Cultural sites presently experiencing heavier impacts could experience fewer impacts, because of a decrease in trampling, churning, soil compaction, etc. However, the effects of cattle use would only be reduced, not prevented.

Conclusion. This management action could have a beneficial effect on the cultural resources. Impacts to cultural resources in low-use areas would remain low, while impacts in high-use areas would decrease due to lower numbers of livestock disturbing cultural resources.

### Recreation

Under this alternative, land-use competition between recreation and livestock would decrease.

Livestock and related livestock management facilities would probably decrease over time if any operators went out of business and the improvements were not maintained. People would be able to travel through more of the public lands unrestricted by fences. Open-space values would remain the same. Roads previously maintained by vehicle use from the livestock industry would begin to disappear. Small tracts of private lands, ranging from 40 acres to a section or more which are now used for livestock purposes, would have less value for livestock grazing. In all probability, the subdividing of agricultural land for recreational homesites will accelerate or decline with land prices and the financial health of the agricultural industry. The greatest demand for homesites would most likely occur near communities and in the more scenic mountainous areas.

Conclusion. The decrease of livestock and range improvements would constitute a positive impact. Some existing range improvements would gradually disappear, resulting in a more natural appearing landscape. Some roads used strictly for livestock management would begin to revegetate. The overall impacts would be beneficial to visual resources.



## **PART E**

### **CONSULTATION AND COORDINATION**

BLM's programs and proposals are closely related to those of other agencies and individuals.

#### **U.S. ENVIRONMENTAL PROTECTION AGENCY**

The U.S. Environmental Protection Agency (EPA) has been given initial responsibility for implementing Section 208 of the Federal Water Pollution Control Act Amendment of 1972. Under this act and executive Order 12088, EPA is working through area-wide water quality management agencies and local Soil Conservation Service offices to complete plans for controlling water pollution in problem areas. Once the requirements of these plans have been completed, BLM will take the measures necessary to comply with them.

#### **U.S. FISH AND WILDLIFE SERVICE**

The U.S. Fish and Wildlife Service conducts animal damage control in Fremont and Natrona counties under joint agreement with BLM and the Wyoming Game and Fish Department. The control consists of aerial shooting and limited trapping of coyotes, mostly during the fall, winter and early spring. The U.S. Fish and Wildlife Service is also the consulting agency under the Endangered Species Act of 1973 and has responsibility for migratory birds.

#### **U.S. SOIL CONSERVATION SERVICE**

The U.S. Soil Conservation Service (SCS) is involved with permittees/lessees and the Wyoming Department of Lands in preparing cooperative or integrated ranch plans. SCS may become more involved in allotments that include significant portions of private and state land. This may be particularly true in Category M and C allotments,

where BLM will be spending less effort in management plan preparation. BLM is cooperating with SCS to upgrade some of the range site guides in this resource area.

The Bureau of Reclamation (BOR) and U.S. Soil Conservation Service are proposing to study and determine sedimentation load to the Wind River. This will include all the tributaries of the Wind River. BLM will be cooperating with the BOR and SCS if this proposal is implemented.

#### **U.S. FOREST SERVICE**

Some of the livestock operators on BLM lands also hold U.S. Forest Service permits. Changes in seasons of use on either BLM or U.S. Forest Service lands often create a demand for change on the other agency's lands. Much of the wildlife use also occurs on U.S. Forest Service lands. Cooperation between the two agencies and the Wyoming Game and Fish Department is ongoing. The U.S. Forest Service was consulted during development of the Lander RMP. It will continue to be included in the decision-making process for specific operations.

#### **WYOMING GAME AND FISH DEPARTMENT**

The Wyoming Game and Fish Department has established goals and objectives for wildlife populations and management actions on all lands within the study area. Because wildlife habitat would be affected by the proposed grazing management, there has been coordination between BLM and the Wyoming Game and Fish Department in developing the Proposed Action. Specifically, the Game and Fish Department has cooperated with BLM in determining existing big game numbers, projecting desirable herd sizes and providing information and pointing out habitat concerns for the categorization process. Joint studies are being continued on big game seasonal ranges and preferred habitats, as well as sage grouse strutting grounds. The Wyoming Game



## CONSULTATION AND COORDINATION

and Fish Department will also review all proposals for land treatments and cooperate in projects, pursuant to the Sikes Act of 1974.

### WYOMING DEPARTMENT OF ENVIRONMENTAL QUALITY

BLM has an informal agreement with the Wyoming Department of Environmental Quality, which provides for information exchange and agency coordination in solving water and air quality problems in the state. Department of Environmental Quality also approves industry plans for reclamation of mined land.

### WYOMING PUBLIC LAND COMMISSION

The Wyoming Public Land Commission administers about 155,000 acres of state land within allotments in the study area. These lands are leased by livestock operators for grazing on 10-year terms. Most of the state lands are intermingled with BLM-administered lands, making separate management impractical.

### WYOMING STATE HISTORIC PRESERVATION OFFICER

The Lander Resource Area objectives and the guidelines for implementation of range improvements have been designed to comply with the Programmatic Memorandum of Agreement between the Department of the Interior, Bureau of Land Management, the Advisory Council on Historic Preservation, and the National Conference of State Historic Preservation Officers regarding the Livestock Grazing and Range Improvement Program. A copy of every cultural resources inventory report is submitted to the Wyoming State Historic Preservation Officer.

### WYOMING DEPARTMENT OF AGRICULTURE

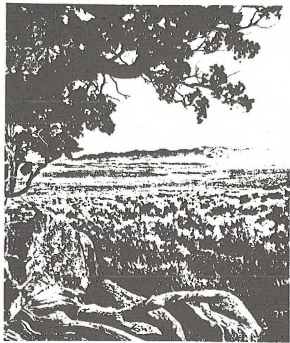
BLM and the Wyoming Department of Agriculture cooperate on weed control programs.

### LIVESTOCK INDUSTRY

All livestock grazing permittees/lessees in the study area were consulted regarding the RMP and the EIS. Consultations covered items such as range condition, allotment operations and range improvements.

## **APPENDIX A**

### **GREEN MOUNTAIN RANGELAND PROGRAM SUMMARY**

**GREEN MOUNTAIN**

GREEN MOUNTAIN PLANNING AREA

RANGELAND PROGRAM SUMMARY

CARBON, FREMONT, NATRONA, AND SWEETWATER COUNTIES, WYOMING

Prepared By:


U.S. DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT

RAWLINS DISTRICT

LANDER RESOURCE AREA

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DISTRICT MANAGER  
RAWLINS DISTRICT

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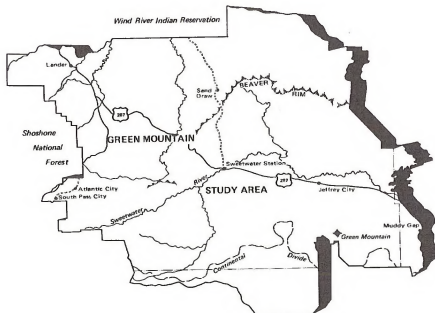
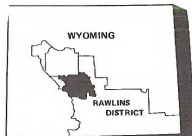
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GENERAL LOCATION MAP



## INTRODUCTION

### BACKGROUND

This publication summarizes the rangeland program for the Green Mountain Environmental Impact Statement (EIS) area in the Ravilina District. The land-use decisions affecting all rangeland uses in the Green Mountain Management Framework Plan (MFP), BLM's preferred alternative (discussed in the EIS), and specific grazing decisions will be presented.

The land-use decisions represent the culmination of the planning efforts that began in 1977. The grazing EIS was finalized in December 1982. This EIS analyzed the effects on the environment of the actions proposed in the MFP and four alternatives to those actions. Grazing decisions will be issued to individual livestock operators within the next 2 years.

The planning area contains a total of 1,432,180 acres (including 1,193,184 acres of public land) and is located in central Wyoming. It is primarily a solid block of public land. A small part of the area, near Lander, is largely private land with scattered blocks of public land. The area as a whole is noted for its diversity of natural resources such as minerals, wildlife, forests, livestock grazing lands, watersheds, and scenic and historical features. Most of the historical sites in the area are connected with early mining activities and the westward migration along the Oregon and associated trails. The area is generally undeveloped, except for the communities of Lander and Jeffrey City, the mining areas of Atlantic City and South Pass City, oil and gas fields, and scattered ranches.

Ranching in the area is a long standing tradition that began in the late 1800s. Many of the ranches retain their original names and are owned and operated by descendants of the original settlers. The ranching operations have for the most part always been cattle operations and remain so today. The ranching industry also provides an important and stable economic base for this part of Wyoming. In total, there are 96 livestock operators using 157 grazing allotments in the area.

### AREAS OF CONCERN AND CONTROVERSY

Before preparation of the EIS, a scoping process was conducted to identify significant issues. Based on contacts with organizations, individuals, and federal, state, and local agencies, areas of concern and controversy were identified.

Of considerable concern was competition for forage among livestock, wild horses, and wildlife. Livestock operators were apprehensive about adjustments in livestock numbers that would be based on a forage allocation process. Categorization of allotments into I, M, and C categories concerned some people. Solutions to overuse of the forage resource through changes in seasons-of-use, fences, water developments, sagebrush control, and soil erosion control were discussed. Trespass by livestock and removal of wild horses were issues also. Road improvement was considered important. Another concern was the preservation of historical objects. Land being taken out of forage production because of other uses worried some people. Conflicts between ranchers and the general public (trespassing, littering, gates left open, access to public lands, etc.) were an additional concern.

## PUBLIC INVOLVEMENT

You are invited to review the Green Mountain MFP, EIS, and all related documents at the Lander Resource Area Office. The Lander Resource Area staff is available to discuss the decisions and help you review the documents. Revisions in the Green Mountain plan may be required from time to time to meet people's needs and to cope with changes in local and national conditions. Major revisions will be done with full public participation. The Rangeland Program Summary will be updated, when needed, to keep the public aware of progress in the range program and of any management decisions.

Interested parties have until April 30, 1983, to express their views on decisions set forth in the Rangeland Program Summary and other land-use decisions. Submit comments to: Dale P. Brubaker, Lander Resource Area Manager, Bureau of Land Management, P.O. Box 589, Lander, Wyoming 82520.

#### RANGELAND PROGRAM SUMMARY

This section summarizes the rangeland management decisions for the Green Mountain Planning Area. These decisions are based on multiple-use planning and the grazing environmental impact statement. This summary conforms with Title 43, Code of Federal Regulations, Part 4160.1-1(a), Grazing Administration on Public Lands. This summary also meets BLM's record of decision requirement.

#### PURPOSE

The purpose of a rangeland management program for public lands is to provide guidelines for managing rangeland resources and related ecosystems, including air, soil, water, vegetation, wildlife and fisheries habitat, wild horses, and livestock. A program is needed to enable BLM to protect the public land and resources under its jurisdiction from unnecessary damage; to stabilize the livestock industry dependent on public land; and to provide for orderly use, improvement, development, and reclamation of public lands for livestock grazing consistent with multiple-use management objectives for these lands. This responsibility and authority evolves from a series of legal and judicial mandates, including the Taylor Grazing Act of 1934 (43 USC 315-315f), the Classification and Multiple-Use Act of 1964 (Public Law 88-6071), the National Environmental Policy Act of 1969 (Public Law 91-190), the Federal Land Policy and Management Act of 1976 (Public Law 94-579), the Public Rangelands Improvement Act of 1978 (Public Law 95-514), and the 1974 federal court action of the Natural Resources Defense Council et al. versus Morton et al.

The proposed rangeland management program for the EIS area was formulated through the BLM planning system, specifically the Green Mountain Management Framework Plan (MFP). Resource problems and possible solutions were identified and analyzed to determine effects on other resources. BLM permittees, the Wyoming Game and Fish Department, and special interest groups were consulted during the process. The MFP recommendations were presented to the public for comment in November 1981.

BLM has adopted a comprehensive grazing management policy that involves assignment of management priorities to groups of allotments, within the context of the existing planning system. The approach is called selective management. Selective management is based on the identification of allotments or areas sharing similar resource characteristics, management needs, and resource and economic potential for improvement. Allotments are identified as belonging to one of three categories: Category M allotments, for which our objective is to maintain their currently satisfactory condition; Category I allotments, for which our objective is to improve current conditions and eliminate conflicts; and Category C allotments, for which our objective is to manage them custodially, while protecting existing resource values. Proposed actions for managing allotments within each category result from their current resource situation. The details of the policy are contained in BLM Washington Office Instruction Memorandum No. 82-292, Final Grazing Management Policy.

#### LAND-USE PLANNING OBJECTIVES FOR ALL RANGELAND USES

The following range management goals or objectives were identified through the planning system or are required by law:

1. Provide enough forage on a sustained-yield basis to satisfy at least the present demands of livestock, wild horses, and wildlife.
2. Maintain range condition at a level that would provide for sustained yield of forage production.
3. Maintain and improve terrestrial, aquatic, and riparian ecosystems to provide wildlife with adequate amounts of forage and habitat to maintain planned population levels.

#### PROPOSED ACTION AND ALTERNATIVES

##### Proposed Action

In the rangeland management section of the Green Mountain MFP, the grazing allotments are grouped into categories, and for each category, recommendations are made for an intensity of grazing management, including specific multiple-use resource management objectives; range improvement and monitoring needs; and actions needed to improve and maintain rangeland condition and productivity. Tradeoffs considered in arriving at the recommendations are identified in the analysis found in the MFP. Under the proposed action, present management would continue until monitoring results were available. Management actions based on all available data would then be implemented.

Category M allotments comprise 20 percent of the allotments and 6 percent of the acreage in the EIS area. The principal objective for these allotments is to maintain or improve their presently satisfactory resource condition and allotment management. Category G allotments comprise 26 percent of the allotments and 1 percent of the acreage in the EIS area. The principal short-term objective on these allotments is to prevent deterioration of the current resource conditions by managing the lands in a custodial manner. Category I allotments comprise 54 percent of the allotments and 93 percent of the acreage in the EIS area. The principal objective for management of Category I allotments is to improve existing resource conditions and reduce or eliminate conflicts. Specific management actions proposed for these allotments depend on the specific problems affecting each allotment.

##### Elimination of Livestock Grazing

Under this alternative, livestock grazing would be eliminated from the public lands in the Green Mountain EIS area, and the lands would be managed for other resource values. Wild horse populations would be allowed to increase, and all managed wildlife species would be allowed to increase to population levels identified in the Wyoming Game and Fish Department's Strategic Plan for the Comprehensive Management of Wildlife in Wyoming.

##### Enhanced Livestock Grazing

Under this alternative, forage available for domestic livestock use would be increased through an accelerated program of range improvements. Suitable



allotments would be placed under allotment management plans (AMPs), and livestock would have priority in forage allowances.

#### No Action

Under this alternative, the existing range management program would be frozen. There would be no new range improvement projects, but maintenance of existing improvements would be allowed. Livestock management actions such as changes in seasons-of-use, class of livestock, etc. would not be allowed, regardless of need. Wild horse and wildlife numbers would be maintained at current levels through wild horse gathering operations and coordination with the Wyoming Game and Fish Department.

#### Management Based on Currently Available Forage Data

Under this alternative, currently available forage data would be used, in lieu of monitoring, to establish grazing capacities. Maintenance and construction of range improvements would continue as planned. Plans for livestock and wild horse adjustments would begin immediately. Other management actions would be the same as for the Proposed Action.

#### Preferred Alternative

The Proposed Action is the preferred alternative.

#### RANGE IMPROVEMENT ECONOMIC ANALYSIS

The Final Rangeland Improvement Policy (Washington Instruction Memo No. 83-27) requires that an economic analysis for proposed rangeland improvements for the planning area be completed before the issuance of the final land-use plan and the Rangeland Program Summary (RPS). However, since no allotment management EIS area, no economic analysis will be completed before completion of the RPS. Also, there has not been any consultation with operators on specific range improvement needs. As specific improvement projects are proposed as a result of the allotment monitoring and consultation process, benefit/cost evaluations will be done. Subsequent RPS updates will discuss these specific allotment/project economic evaluations.

#### DECISION RECORD

#### NFP 3 Decisions

##### Category M Allotments

Implement the following management actions for these allotments:

1. Consult with all affected interests to establish a mutual understanding of the management flexibility for livestock operations given to individual livestock operators. A change in category may be necessary if a significant change in management occurs.

2. Authorize current livestock active preference under a 10-year permit or lease.
3. Conduct low-level monitoring of actual use, climate, and trend.
4. Allow increases in grazing use by any or all types of grazing animals if monitoring indicates this will be consistent with multiple-use objectives.
5. Conduct low-intensity use supervision consisting of periodic consultation with livestock operator(s). Occasional counts of livestock numbers may be conducted.
6. Authorize any range improvements that meet multiple-use objectives for the allotment.
7. Encourage livestock operator(s) to fund installation of range improvements. Some range betterment funds may be made available as budgets permit.

The stated management actions were chosen because this group of allotments has those characteristics stated in the Rangeland Management Policy and Green Mountain Allotment Categorization Criteria, which place them in the M category. These allotments are in this category because: (1) They have been identified as having enough forage production to satisfy the existing livestock, wildlife, and wild horse demands; (2) current use is producing satisfactory range condition and trend; and (3) water supply, fences and livestock distribution are not problems. Our objective for this group of allotments is to maintain or improve their condition. Present authorized use has not deteriorated the condition, so we propose to continue with the use and authorize other actions that will lead to improvement of the condition. We have suggested priorities for monitoring on the basis that 10 of these allotments marginally met the criteria for the M Category. The ranking is for the purpose of identifying which allotments would receive attention first if budgets and manpower are limited. Table 1 shows the ranking for the M Category allotments.

##### Category I Allotments

The management actions for the Category I allotments are presented as corrective measures that will be taken in response to the existing problems that have been identified on each allotment. Consultation with all affected parties (livestock operators, Wyoming Game and Fish, U.S. Forest Service, other private landowners, environmental and conservation groups, wild horse organizations, state government, etc.), will be an integral part of the management actions that will be taken for the Category I allotments.

TABLE 1  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: MAINTAIN ALLOTMENTS

Allo- No.	Allo- Name	1 Management Category	2 Critical Re- Source Value	3 Use Conflicts	4 Veg. Res. Problems	5 Public Controversy	6 Other Criteria, Explana- tion, Rationale, Etc.	7 Area Mgt. Rank	8 Advisory Board Rank	9 Final Rank Dist. Mgt.
1 1625	Jamman Pasture	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	1	1	1
2 1627	Individual Allotment	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	2	2	2
3 1931	Stockery Individual	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	3	3	3
4 1932	Sheep Hn.	M	Moderate	Low	Satisfactory	Low	Marginally met M Criteria	4	4	4
5 2012	East Allotment	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	5	5	5
6 2014	South Hat Pasture	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	6	6	6
7 2018	Alca Crave Pasture	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	7	7	7
8 2019	Cooper Creek Allotment	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	8	8	8
9 2022	South Allot- ment	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	9	9	9
10 2025	Lindsey Pasture	M	Low	Low	Satisfactory	Low	Marginally met M Criteria	10	10	10
11 1414	Anderson Winter	M	Low	Low	Satisfactory	Low	Fully met M Criteria	11	11	11
12 1626	Vintar Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	12	12	12
13 1628	Sagehen Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	13	13	13
14 1630	Tran Road	M	Low	Low	Satisfactory	Low	Fully met M Criteria	14	14	14
15 1632	North Hat	M	Low	Low	Satisfactory	Low	Fully met M Criteria	15	15	15
16 1634	Arkansas Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	16	16	16
17 1637	North Allot- ment	M	Low	Low	Satisfactory	Low	Fully met M Criteria	17	17	17
18 1638	Winter Allot- ment	M	Low	Low	Satisfactory	Low	Fully met M Criteria	18	18	18
19 1660	Home, North of Highway	M	Low	Low	Satisfactory	Low	Fully met M Criteria	19	19	19
20 1704	Breeding Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	20	20	20

TABLE 1--CONTINUED  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: MAINTAIN ALLOTMENTS

Allo- No.	Allo- Name	1 Management Category	2 Critical Re- Source Value	3 Use Conflicts	4 Veg. Res. Problems	5 Public Controversy	6 Other Criteria, Explana- tion, Rationale, Etc.	7 Area Mgt. Rank	8 Advisory Board Rank	9 Final Rank Dist. Mgt.
21 1706	Trent and Sore Place	M	Low	Low	Satisfactory	Low	Fully met M Criteria	21	21	21
22 1710	Graham Ranch Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	22	22	22
23 1715	Horton Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	23	23	23
24 1806	Beaver Creek	M	Low	Low	Satisfactory	Low	Fully met M Criteria	24	24	24
25 1808	Hudson Draw	M	Low	Low	Satisfactory	Low	Fully met M Criteria	25	25	25
26 1925	Hall Creek Winter	M	Low	Low	Satisfactory	Low	Fully met M Criteria	26	26	26
27 2009	Alkali Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	27	27	27
28 2010	Rattlesnake Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	28	28	28
29 2020	Cottonwood Pasture	M	Low	Low	Satisfactory	Low	Fully met M Criteria	29	29	29
30 2023	Shawhan Ranch	M	Low	Low	Satisfactory	Low	Fully met M Criteria	30	30	30
31 2024	Harris Place	M	Low	Low	Satisfactory	Low	Fully met M Criteria	31	31	31
32 2201	Duck 1	M	High	Low	Satisfactory	Low	Sec. 15 - Wildlife Range	32	32	32
33 2208	Pine Bar 21	M	High	Low	Satisfactory	Low	Sec. 15 - Wildlife Range	33	33	33
34 1936	Gene and Fish	M	High	Low	Satisfactory	Low	Gene & Fish Elk Refuge - Uninclosed	34	34	34

The management actions for allotments where vegetative production, species composition, range condition, and competition among grazing animals for available forage is not satisfactory will be to monitor the range trend, utilization, actual use, and climate. These monitoring studies will give the area manager a basis on which to decide what management actions are necessary on the allotment. Actions that may be taken include development of grazing systems, changes in turnout dates and season-of-use, development of additional water to improve distribution and adjustments in stocking levels.

If the vegetative production and range condition is deteriorating on these allotments, adjustments in stocking levels of all grazing animals will be implemented. Adjustments will be made after the Area Manager decides the monitoring data on these allotments are sufficient for these decisions. The degree of adjustment will depend on the specific results of the monitoring data. For example, if the monitoring studies indicate after 2 years that the utilization on the key forage species is exceeding objective levels by 20 percent, then the grazing use will be reduced and/or management adjusted until objective levels are met. Monitoring will be a continuing process to assure that adjustments and other changes in use accomplish allotment objectives.

Initially emphasis will be directed to those allotments that have wild horse populations. Wild horse herd management plans will be developed that will specify necessary measures to maintain a healthy, viable herd that is consistent with multiple-use objectives for the allotment. An interim management level of wild horses will be established with the 1979 population level as a maximum. This initial or interim population level will be monitored, along with the habitat, to allow further adjustments as necessary to maintain viable herds and satisfactory range condition.

As funding becomes available, herd numbers will be reduced. It is expected that roundups will be conducted every 5 years. The range of herd numbers anticipated are listed by herd area in Table 2. All horses will be removed from the East Beaver Allotment number 1801.

The management actions for allotments where grazing animal distribution is not satisfactory will vary, depending on whether the distribution problems are caused by lack of water or by concentration of livestock on riparian areas.

On allotments where lack of water is the problem, additional water sources will be developed. Once additional water sources have been developed, the monitoring will indicate whether the problems have been corrected or additional development is needed.

On allotments where sufficient water is available but livestock are concentrating too heavily on riparian areas, grazing systems and/or fencing will be implemented. Critical wildlife areas will be critically examined before placement of any range improvement projects that can result in increased livestock use in these areas. Some critical wildlife areas will require special intensive management actions.

Table 2

INTERIM WILD HORSE HERD MANAGEMENT LEVELS<sup>1/</sup>

Herd Area	Lower Limit (immediately after roundup)	Median Population Level	Upper Limit (immediately before roundup)
Gonant Creek	35	50	70
Muskrat Basin	145	205	295
Rock Creek Mtn.	35	40	55
Dishpan Butte	35	40	50
Green Mtn.	170	245	345
Antelope Hills	35	45	65
Crooks Mtn.	35	35	35
Total	490	660	915

<sup>1/</sup>Assumption is that herds will increase at approximately 20 percent per year, and that roundups will be conducted every 5 years. Initially, no herds will be reduced below 35 animals. The purpose of this lower limit is to maintain viable herds while we continue our data gathering on populations and habitat conditions in our monitoring program.

Monitoring studies for range readiness will continue on allotments where turn out dates and seasons of use are unsatisfactory. Consultation with the livestock operators has indicated that some of them are willing to make adjustments in their season-of-use in the next grazing season. On these allotments, the livestock operator will be given the flexibility to vary the season-of-use annually, based on range readiness. Consultation will be conducted before this system of flexibility is established with these operators.

On the other allotments, adjustments in turnout dates, and/or seasons-of-use will be made where needed. It is anticipated that these adjustments will occur within two to five years after the EIS is completed. The monitoring data will indicate an "average" range-readiness date for livestock grazing. Grazing permits will be adjusted to reflect these proper turnout dates and seasons of use. The adjustments in turnout dates will be phased in over several years. For example, if the turnout date is adjusted from May 1 to May 21, the permit will be adjusted as follows: Year 1 - May 7, Year 2 - May 14, Year 3 - May 21. This phasing in of turnout dates will allow the affected livestock operators to adjust their spring operation accordingly. Also, yearly fluctuations in range readiness will be accounted for through the ongoing plant phenology and range readiness studies, and adjustments in annual turnout dates will be made.

The management actions for allotments that have significant conflicts with other land uses will vary depending on the type of land-use conflicts on the allotments.

Where the land-use conflict is causing loss of forage production because of surface disturbance, rehabilitation efforts will be conducted and monitored for effectiveness. Annual monitoring of the amount of surface disturbance and loss of forage production will be conducted. Temporary or permanent adjustments in stocking levels of grazing animals will be made, as necessary, to promote effective rehabilitation.

In allotments where the livestock grazing is causing adverse conditions for another land use (forestry, wildlife riparian habitat, and recreation use), alternative management actions will be considered on a case by case basis. Examples of actions that will be considered are: grazing systems that can remedy some riparian problems; and exclusion of livestock through fencing selected critical areas for protection of forest regeneration, recreation sites, or critical riparian areas and wetlands.

Monitoring data will indicate the level of vegetative productivity that is present on the allotments where we believe vegetative productivity is below potential. Intensive grazing systems, coupled with needed range improvements (fences, water development, and land treatments) and adjustments in stocking levels of grazing animals will be implemented. The effects of these proposed management actions will be measured against specific resource objectives established for the allotment. The objectives will be identified and documented in the ANP or grazing system plan with the help of the affected livestock operator.

The management action for allotments that may have potential for economic return on public investment will be to conduct benefit/cost analyses on needed ANP's or grazing system plans and related range improvements before they are implemented. The benefit/cost ratio will, in most cases, have to be greater than one (favorable) for these plans and improvements before their implementation or construction.

The Category 1 allotments have a number of problems, some of which are quite significant, i.e., forage production or land-use conflicts. The proposed management actions are measures we feel will better define the problems, provide for input from all interested parties to find solutions to those problems, and implement those measures determined to be beneficial in achieving multiple use objectives. We propose to concentrate our manpower capability and improvement funding in these allotments because we believe that they are allotments with the most problems and the allotments that offer the prospect for maximum return on public investment.

The allotment ranking (Table 3) was recommended in the event that there is limited manpower, funding and ability to monitor these allotments. They were ranked, based on the significance of management problems identified in the allotments.

#### Category C Allotments

Implement the following management actions for these allotments:

1. Redesignate or eliminate Category C allotments by:

- a. Changing fence locations,
- b. Exchanging land to block up public land, or
- c. Selling public land.

2. In the interim:

- a. Consult with all affected interests to establish a mutual understanding of the management flexibility given to the individual livestock operations.
- b. Authorize current livestock active preference under a 10-year permit or lease.
- c. Conduct low-level monitoring of actual use, climate and trend, with priority given to those allotments designated for fence location changes.
- d. Conduct low-intensity use supervision consisting of periodic consultation with livestock operators. Occasional counts of livestock numbers may be conducted.

TABLE 3  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: IMPROVE ALLOTMENTS

1	2	3	4	5	6	7	8	9	10	
Allot. No.	Allot. Name	Management Category	Critical Resource Value	Use Conflicts	Veg. Res. Problems	Public Controversy	Other Criteria, Explanation, Rationale, Etc.	Area Mgr. Rank	Advisory Board Rank	Final Rank
1 1401	Ale Pasture	I	High	Extreme	Extreme	Moderate	Wild Horse Herd Area	1	1	1
2 1403	Cumant Creek Common	I	High	Extreme	Extreme	Moderate	Wild Horse Herd Area	2	2	2
3 1436	Gummit Ntn. Open	I	High	Extreme	Extreme	Moderate	Wild Horse Herd Area	3	3	3
4 1902	Cottonwood Basin	I	High	Moderate	Extreme	Low	Large ( 10,000 acres)	4	4	4
5 1703	Big Pasture	I	High	High	High	Moderate	Wild Horse Herd Area	5	5	5
6 1716	Oldman Butte	I	High	High	High	Moderate	Wild Horse Herd Area	6	6	6
7 1803	Government Draw	I	High	Moderate	High	Low	Large ( 67,000 acres)	7	7	7
8 1611	Lander Valley	I	High	Moderate	Moderate	Low	Grazed as one unit with #1803	8	8	8
9 1812	Minemile	I	High	Moderate	Extreme	Low	Large ( 13,000 acres)	9	9	9
10 1918	Hill Creek	I	High	Moderate	High	Low	Large ( 14,000 acres)	10	10	10
11 1804	Government Draw - Lower Beaver	I	High	Moderate	High	Low	Large ( 31,000 acres)	11	11	11
12 2003	Whiskey Peak	I	High	High	High	Moderate	Wild Horse Herd Area	12	12	12
13 1409	Muskat Open	I	High	Moderate	Moderate	Moderate	Wild Horse Herd Area	13	13	13
14 1801	Balt Beaver Common	I	High	Moderate	Moderate	Moderate	Wild Horse Herd Area	14	14	14
15 2001	Green Men. Common	I	High	Moderate	Moderate	Moderate	Wild Horse Herd Area	15	15	15
16 1911	Aad Canyon ANP	I	High	Extreme	Extreme	Moderate	ANP, Elk Winter Range	16	16	16
17 1701	FIAGE ANP	I	High	Low	High	Low	ANP Needs Evaluation	17	17	17
18 1802	Bringsif ANP	I	High	Low	High	Low	ANP Needs Evaluation	18	18	18
19 1909	Slitterupper Beaver ANP	I	High	High	High	Moderate	ANP, Elk Winter Range	19	19	19
20 1908	Slitterupper ANP	I	High	Extreme	High	Moderate	ANP, Elk Winter Range	20	20	20
21 1915	Beaver ANP	I	High	Low	High	Low	ANP, Needs Evaluation	21	21	21
22 1904	Devils Canyon ANP	I	High	Moderate	Moderate	Low	ANP, Over Winter Range	22	22	22
23 1902	Saltwater ANP	I	High	Low	Moderate	Low	ANP, Needs Evaluation	23	23	23
24 1914	McCrack Flat Common	I	High	Low	Extreme	Low	Large ( 13,000 acres)	24	24	24
25 1901	Atlantic City Common	I	High	Moderate	Moderate	Moderate	Large, Riparian Areas, Rec.	25	25	25

TABLE 3--CONTINUED  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: IMPROVE ALLOTMENTS

1	2	3	4	5	6	7	8	9	10	
Allot. No.	Allot. Name	Management Category	Critical Resource Value	Use Conflicts	Veg. Res. Problems	Public Controversy	Other Criteria, Explanation, Rationale, Etc.	Area Mgr. Rank	Advisory Board Rank	Final Rank
26	1901 Silver Creek Common	I	High	Moderate	Moderate	Low	Large ( 35,000 Acres)	26	26	26
27	1823 Murphree Pasture	I	Moderate	Low	Extreme	Low	Columns 1 and 4	27	27	27
28	1717 Fenced Individual	I	Moderate	Low	Extreme	Low	Columns 1 and 4	28	28	28
29	1807 Balding Pasture	I	Moderate	Low	Extreme	Low	Columns 1 and 4	29	29	29
30	1910 Lee Sawmill Basin	I	Moderate	Extreme	Extreme	Moderate	Columns 1 and 4, Elk Winter Range	30	30	30
31	1913 McGraw Flat Individual	I	Moderate	Low	Extreme	Low	Columns 1 and 4	31	31	31
32	1918 McGraw Flat-Upper I Beaver	I	High	High	Extreme	Low	Columns 1 and 4, Elk Winter Range	32	32	32
33	1919 Red-Kaper	I	Moderate	Low	Extreme	Low	Columns 1 and 4	33	33	33
34	1921 Level Meadows	I	Moderate	Moderate	Extreme	Low	Columns 1 and 4	34	34	34
35	1922 F. Seare	I	Moderate	Low	Extreme	Low	Columns 1 and 4	35	35	35
36	1928 McKinney Individual	I	Moderate	Low	Extreme	Low	Columns 1 and 4	36	36	36
37	1934 Red Canyon Rim	I	High	Low	Extreme	Moderate	Columns 1 and 4, Exchange of Use	37	37	37
38	1907 Right Pasture	I	Moderate	Low	Extreme	Low	Columns 1 and 4	38	38	38
39	2021 Highway Allotment	I	Moderate	Low	Extreme	Low	Columns 1 and 4	39	39	39
40	2026 Little Camp Creek	I	Moderate	Low	Extreme	Low	Columns 1 and 4	40	40	40
41	1412 Pasture Winter	I	Moderate	Low	High	Low	Columns 1 and 4	41	41	41
42	1415 Croft Individual	I	Moderate	Low	High	Low	Columns 1 and 4, Needs License	42	42	42
43	1622 Larkin Creek Pasture	I	Moderate	Low	High	Low	Columns 1 and 4	43	43	43
44	1705 Myers Fenced Pasture	I	Moderate	Low	High	Low	Columns 1 and 4	44	44	44
45	1909 Lee Union Flat	I	Moderate	Low	High	Low	Columns 1 and 4	45	45	45
46	1917 Maze Union Flat	I	Moderate	Low	High	Low	Columns 1 and 4	46	46	46
47	2008 46 Pasture	I	Moderate	Low	High	Low	Columns 1 and 4	47	47	47
48	2013 Fenced Allotment	I	Moderate	Moderate	High	Low	Columns 1 and 4, Elk Winter Range	48	48	48

TABLE 3--CONTINUED  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: IMPROVE ALLOTMENTS

Allo- No.	Allo- Name	1 Management Category	2 Critical Re- Source Value	3 Use Conflicts	4 Veg. Res. Problems	5 Public Controversy	6 Other Criteria, Explana- tion, Rationale, Etc.	7 Area Mgr. Rank	8 Advisory Board Rank	9 Final Rank	10 Dist. Mgr.
49	1413 Pipeline Pasture	I	Moderate	Low	Moderate	Low	Column 1 end 4	49	49	49	
50	1455 Big Rock Pasture	I	Moderate	High	Moderate	Low	Column 1 end 4	50	50	50	
51	1707 Ice Slough	I	High	Low	Moderate	Moderate	Column 1 end 4, Historic Site	51	51	51	
52	1709 Long Creek Pasture	I	High	Low	Moderate	Low	Column 1 end 4, Riparian Area	52	52	52	
53	1713 Whitlock Pined	I	Moderate	Low	Moderate	Low	Column 1 end 4	53	53	53	
54	1803 Kirby Reservation Boundary	I	Moderate	Low	Moderate	Low	Column 1 end 4	54	54	54	
55	1906 Twin Creek Individual	I	Moderate	Low	Moderate	Low	Column 1 end 4	55	55	55	
56	1907 Commissary Hill	I	Moderate	Moderate	Moderate	Low	Column 1 end 4, Elk Winter Range	56	56	56	
57	2004 Green Mtn. Fenced	I	Moderate	Low	Moderate	Low	Column 1 end 4	57	57	57	
58	2005 Home, South of Highway	I	Moderate	Low	Moderate	Low	Column 1 end 4	58	58	58	
59	2015 Hedasil Pasture	I	Moderate	High	Moderate	Low	Column 1 end 4, Elk Winter Range	59	59	59	
60	2211 Strube 26	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, R. Sheep	60	60	60	
61	2213 Spriggs 36	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, Moose, R. Sheep	61	61	61	
62	2215 Wunder 38	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, Moose	62	62	62	
63	2217 Nicholas 40	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, R. Sheep	63	63	63	
64	2218 Double A 41	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, Moose, R. Sheep	64	64	64	
65	2219 Slingerland 43	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, Moose, R. Sheep	65	65	65	
66	2220 North Park Land & Develop. Co.	I	High	High	Moderate	Moderate	Sec. 15, Deer, Elk, Moose, R. Sheep	66	66	66	
67	2207 Stearns 19	I	High	Moderate	Moderate	Low	Sec. 15, Deer, Elk	67	67	67	
68	2210 Holy Cross 10	I	High	High	Moderate	Low	Sec. 15, Deer, Elk	68	68	68	
69	2214 Double A 37	I	High	High	Moderate	Low	Sec. 15, Deer, Elk	69	69	69	

TABLE 3--CONTINUED  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: IMPROVE ALLOTMENTS

Allo- No.	Allo- Name	1 Management Category	2 Critical Re- Source Value	3 Use Conflicts	4 Veg. Res. Problems	5 Public Controversy	6 Other Criteria, Explana- tion, Rationale, Etc.	7 Area Mgr. Rank	8 Advisory Board Rank	9 Final Rank	10 Dist. Mgr.
70	2240 Harvey Basin	I	Moderate	High	Moderate	Low	Sec. 15, Deer, Elk	70	70	70	
71	2205 Hopkins 13	I	Moderate	Low	Moderate	Low	Sec. 15, Deer	71	71	71	
72	2206 Iron 17	I	Moderate	Low	Moderate	Low	Sec. 15, Deer	72	72	72	
73	2218 Spriggs 57	I	Moderate	Moderate	Moderate	Low	Sec. 15, Deer	73	73	73	
74	2238 Framan 70	I	Moderate	Low	Moderate	Low	Sec. 15	74	74	74	
75	2232 Seasons Creek 63	I	Moderate	Low	Low	Low	Sec. 15, Should be "H" now	75	75	75	
76	2222 Strube (School)	I	Low	Low	Low	Low	Sec. 15	76	76	76	
77	2223 Rose 51	I	Low	Low	Low	Low	Sec. 15, Should be "H" now	77	77	77	
78	2225 Crump 13	I	Low	Low	Low	Low	Sec. 15, Should be "H" now	78	78	78	
79	2209 West Draw	I	Low	Low	Low	Low	Sec. 15, Not leased	79	79	79	
80	2239 Cyclone Pass	I	Low	Low	Low	Low	Sec. 15, Not leased	80	80	80	
81	1841 McKinney	I	Low	Low	Low	Low	Not licensed, should be I Low	81	81	81	
82	2235 Honey Towd	I	Moderate	Low	Low	Low	Sec. 15, Should be "H" now	82	82	82	



- e. Authorize any range improvements that meet multiple-use objectives for the allotment.
- f. Encourage livestock operator(s) to fund installation of range improvements (some range betterment funds may be made available).

Forty-three allotments are included in the C category. There were two primary reasons for recommending these management actions:

1. Federal multiple-use management is not economically feasible because of landownership patterns. Many of the allotments are small; tracts of public lands are so intermingled with private lands that there is little or no opportunity for federal range management.
2. Federal multiple-use management is not economically feasible because of existing fence locations. Several allotments have small amounts of public land that have been fenced in with large amounts of private lands. These situations are largely the result of fencing during the homesteading period when it was more practical to fence along topographic features than on legal subdivisions.

Table 4 shows the ranking for the Category C allotments.

#### Grazing Decisions

The grazing program that is applicable to each allotment has been documented in this summary. All interested parties have until April 30, 1983, to express their views on these decisions. Comments should be submitted in writing to: Dale P. Brubaker, Lander Resource Area Manager, Bureau of Land Management, P.O. Box 589, Lander, Wyoming 82520. Following this review period, consultation will be pursued with individual permittees and other affected parties.

Management decisions affecting grazing use will be made when monitoring data are sufficient to support those decisions. They may include changing livestock numbers, periods of use, or a combination of both. Monitoring will be a continuing process to assure that any changes in grazing use accomplish the objectives.

If monitoring studies indicate there is a need to further modify periods of use, livestock numbers, class of livestock, or grazing systems, these adjustments will be made after consultation with the affected livestock operators and any other affected parties.

TABLE 4  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: CUSTODIAL ALLOTMENTS

		1	2	3	4	5	6	7	8	9	10
AlLOT.	AlLOT.	Management	Critical Re-	Use	Management	Public	Other Criteria, Explana-		Area	Advisory	Final
No.	Name	Category	Source Value	Conflicts	Problems*	Controversy	tion, Rationale, Etc.		Mgr.	Board Rank	Rank Dist. Mgr.
1	1659	Winger Pastures	C	Low	Low	1	Low	Section 3 Permit	1	1	1
2	1651	Clayton Homestead	C	Low	Low	2	Low		2	2	2
3	1653	Stampede Bog	C	Low	Low	2	Low		3	3	3
4	1702	Flag Individual C	C	Low	Low	2	Low		4	4	4
5	1711	Hay Meadow Pasture	C	Low	Low	2	Low		5	5	5
6	1712	Long Creek Sweetwater	C	Low	Low	2	Low		6	6	6
7	1714	Heartleaf Pasture	C	Low	Low	2	Low		7	7	7
8	1809	Bringolf Ranch	C	Low	Low	2	Low		8	8	8
9	1810	Yellowstone Ranch	C	Low	Low	2	Low		9	9	9
10	1912	Twin Creek Pasture	C	Low	Low	2	Low		10	10	10
11	1923	Atlantic City Upper	C	Low	Low	2	Low		11	11	11
12	1924	Atlantic City Lower	C	Low	Low	2	Low		12	12	12
13	1927	Ellis Ranch	C	Low	Low	2	Low		13	13	13
14	1928	Slough Lake	C	Low	Low	2	Low	Not Licensed	14	14	14
15	1929	Batraz Spring	C	Low	Low	2	Low		15	15	15
16	1930	Willow Creek	C	Low	Low	2	Low		16	16	16
17	1933	Levy T	C	Low	Low	2	Low		17	17	17
18	1935	Bowman Ranch	C	Low	Low	2	Low		18	18	18
19	1937	Little Popo Agia	C	Low	Low	2	Low		19	19	19
20	1938	Bequested Ranch C	C	Low	Low	2	Low		20	20	20
21	1939	Auer Ranch	C	Low	Low	2	Low		21	21	21
22	1940	Hendon Ranch	C	Low	Low	2	Low		22	22	22
23	2002	Barris Slough	C	Low	Low	2	Low	Section 3 Permit	23	23	23
24	2016	State-71 Meadows	C	Low	Low	2	Low		24	24	24
25	2021	Willow Creek	C	Low	Low	2	Low		25	25	25
26	2026	Witchell Pasture	C	Low	Low	2	Low		26	26	26

TABLE 4--CONTINUED  
ALLOTMENT RANKING AND RANGELAND PROGRAM SUMMARY  
IMPLEMENTATION SCHEDULING: CUSTODIAL ALLOTMENTS

		1	2	3	4	5	6	7	8	9	10
AlLOT. No.	AlLOT. Name	Management Category	Critical Re-Source Value	Use Conflicts	Management Problems*	Public Controversy	Other Criteria, Explanation, Rationale, Etc.	Area Mgr. Rank	Advisory Board Rank	Final Rank Dist. Mgr.	
27	2029 Diamond Hook	C	Low	Low	2	Low	Section 3 Permit	27	27	27	
28	1813 Rio Ridge	C	Low	Low	1	Low		28	28	28	
29	2002 Arnold A	C	Low	Low	1	Low	Section 15 Lease	29	29	29	
30	2203 Hancock S	C	Low	Low	1	Low	Section 15 Lease	30	30	30	
31	2204 Table Mountain	C	Low	Low	1	Low	Section 15 Lease	31	31	31	
32	2212 Frank 18	C	Low	Low	1	Low		32	32	32	
33	2216 Day 39	C	Low	Low	1	Low		33	33	33	
34	2221 Hallam 45	C	Low	Low	1	Low		34	34	34	
35	2224 Auer 52	C	Low	Low	1	Low		35	35	35	
36	2226 Davis 56	C	Low	Low	1	Low		36	36	36	
37	2227 Jones 55	C	Low	Low	1	Low		37	37	37	
38	2229 Kaper 59	C	Low	Low	1	Low		38	38	38	
39	2230 Table Mountain 61	C	Moderate	Low	1	Low	Deer Winter Range	39	39	39	
40	2231 Booth 62	C	Low	Low	1	Low		40	40	40	
41	2233 Weber 66	C	Low	Low	1	Low		41	41	41	
42	2234 Sjostrom 66	C	Low	Low	1	Low		42	42	42	
43	2238 Dearden Gulch	C	Low	Low	1	Low		43	43	43	

\*Management Problems:  
1 = Land Ownership Pattern  
2 = Fence Location

### Category I Decisions

Monitoring on the Category I allotments would be conducted in accordance with the following procedures:

1. The Draft BLM Manual, Section 4430.56, would be used as a general guide in developing trend-monitoring procedures. Plant frequency and ground cover would be sampled to evaluate vegetation and soil trend. Other parameters such as canopy, seedling, or shrub characteristics would be considered on unique areas such as riparian zones, aspen stands, and bitterbrush and mahogany thickets.
2. During and after grazing of each pasture, forage utilization would be measured by the height-weight method described in the Draft BLM Manual, Section 4430.47C. This would aid in determining whether stocking levels were providing proper use and what adjustments, if any, would be needed. These studies would also help determine a schedule for seasonal use. Browse utilization studies would continue on the wildlife winter ranges.
3. Actual use monitoring for livestock would be conducted using aerial and ground counts and certified actual-use statements.
4. Meadows would be monitored to determine impacts from grazing activities.
5. Rain gauges would be used to take measurements of precipitation to help interpret vegetation production variations resulting from climatic changes.
6. Water quality and quantity would be monitored as necessary to determine problem areas.
7. Soil movement would be assessed in conjunction with trend and utilization studies. Changes in gully development along transects would be documented. Clay-mineral analysis of sediment would be used to monitor changes in sediment and erosion sources.
8. Wildlife use data would be obtained on antelope, deer, and elk from the Wyoming Game and Fish Department and supplemental BLM studies. Important habitats would be monitored to identify wildlife needs and habitat trends and use. Use patterns, periodic observation, and consultation with other agencies would be the principal monitoring methods.
9. Wild horse use data would be obtained by aerial and ground counts by BLM personnel. Important wild horse ranges would be monitored to identify wild horse needs, range trends and use. Use patterns, forage utilization levels, periodic observation, and consultation with interested groups would be the principal monitoring methods.
10. There is one plant species, meadow pusseytoes, in the Lander Resource Area being considered for listing as either endangered or threatened by the U.S. Fish and Wildlife Service. Trend studies will be done to determine the effects of the livestock management program on this plant, beginning in FY-83.

In 1982, 12 Category I allotments were selected for the initial monitoring effort. These allotments were selected because they included a large portion of the Green Mountain acreage in the improve category and because of the severity of existing forage competition between livestock and wild horses. Monitoring studies were established on these allotments after consultation with the livestock operators and other affected parties. The 12 allotments and the acreages are listed in Table 5.

Table 5

PRIORITY MONITORING ALLOTMENTS

Allotment No.	Allotment Name	RLM Acres	Other Acres	Total Acres
1401	Rin Pasture	19,095	5,669	24,764
1403	Conant Creek Common	50,376	8,211	58,587
1636	Granite Mtn. Open	77,756	4,870	82,626
1703	Big Pasture	74,351	5,373	79,724
1716	Dishpao Butte	16,402	1,813	18,215
1803	Government Draw	58,401	8,890	67,291
1804	Government Draw - Lower	20,177	11,110	31,287
	Beaver			
1811	Lander Valley	4,990	960	5,950
1812	Nine Mile	13,908	1,291	15,199
1902	Cottonwood Basin	7,800	5,625	13,425
1916	Hall Creek	12,711	1,746	14,457
2003	Whiskey Peak	61,716	9,037	70,753
TOTALS		417,683	64,595	482,278

These 12 allotments represent one-third of the total area of the Green Mountain Planning Area.

All livestock operators whose allotments are in the I category will receive individual grazing decisions specifying monitoring actions and their initial stocking rate (this will be their present stocking rate unless adjustments are mutually agreed to by April 1984, 17 months following submission of the final EIS). Copies of these decisions will also be sent to those who have indicated, in writing, that their interests may be affected by the decision.

The initial stocking rates and seasons-of-use by allotment for livestock are shown in Table 6.

### Category M Decisions

Monitoring on the Category M allotments will consist of the following actions:

1. Conduct low-level monitoring of actual use, climate, and trend with priority given to those allotments that have marginally met the categorization criteria.

2. Conduct low-intensity use supervision consisting of periodic consultation with livestock operators and occasional counts of livestock numbers.

Individual grazing decisions will not be issued to livestock operators whose allotments are in the M category.

The present stocking rates and seasons-of-use by allotment for livestock are shown in Table 7.

#### Category C Decisions

Monitoring on the Category C allotments will consist of the following actions:

1. Conduct low-level monitoring of actual use, climate, and trend with priority given to those allotments designated for fence location changes.
2. Conduct low-intensity use supervision consisting of periodic consultation with livestock operators and occasional counts of livestock numbers.

Individual grazing decisions will not be issued at this time to livestock operators whose allotments are in the C category. Decisions will be issued as land is sold or exchanged or fence locations are changed.

The initial stocking rate and seasons-of-use by allotment for livestock are shown in Table 5.

TABLE 6  
CATEGORY I ALLOTMENTS

Allotment Number	Allotment Name	AUM's	Seasons of Use <u>1/</u>
1401	Rim Pasture	3,316 788	C: 05/01 to 11/30 S: 05/01 to 06/15 S: 09/04 to 11/06
1403	Conant Creek Common	4,906 3,081	C: 05/01 to 11/30 S: 05/01 to 06/15 and 10/14 to 03/31
1623	Murphree Pastures	1,061	11/01 to 05/31
1636	Granite Mountain Open	12,583	05/01 to 11/14
1717	Fenced Individual	171	05/01 to 06/14
1807	Baldwin Pasture	105	05/01 to 06/01
1812	Ninemile	516	05/01 to 10/31
1902	Cottonwood Basin	705	04/01 to 02/28
1910	Lee Sawmill Basin	538	C: 05/01 to 10/15
1911	Red Canyon AMP	20 776	R: 05/01 to 10/01 05/16 to 09/30
1913	McGraw Flat Individual	206	06/01 to 09/30
1914	McGraw Flat Common	1,823	05/01 to 10/31
1918	McGraw Flat-Upper Beaver	1,146	07/01 to 10/10
1919	Reed-Kaper	488	05/16 to 10/10
1921	Level Meadows	701	05/15 to 09/30
1922	P Heart Individual	146	05/15 to 09/30
1926	McKinney Individual	235	05/01 to 09/30
1934	Red Canyon Rim	Exchange of Use <u>2/</u>	06/05 to 10/31
1941	McKinney	176	Not licensed
2007	Rigby Pasture	296	05/01 to 09/30
2011	Highway Allotment		04/01 to 05/15 and 10/01 to 10/07
2026	Little Camp Creek	294	05/01 to 10/31
1412	Poston Winter	437	12/01 to 04/30
1415	Crofts Individual		Unlicensed
1622	Larkin Creek	248	01/15 to 04/30
1701	Flagg AMP	1,980	05/01 to 10/31
1703	Big Pasture	11,541 594	C: 05/01 to 11/07 S: 06/16 to 07/07 and 09/17 to 10/13
1705	Myers Fenced Pasture	175	04/06 to 04/30
1716	Dishpan Butte	1,803 290	C: 05/01 to 11/01 S: 07/08 to 07/15 and 09/04 to 09/16
1802	Bringolf AMP	1,163	06/01 to 10/15
1803	Government Draw	7,950	05/01 to 10/31
1804	Government Draw - Lower Beaver	5,050	12/01 to 06/15

TABLE 6--CONTINUED

## CATEGORY I ALLOTMENTS

Allotment Number	Allotment Name	AUM's	Seasons of Use <sup>1/</sup>
1905	Ellis-Upper Beaver AMP	530	05/16 to 09/30
1908	Slingerland AMP	2,215	05/10 to 10/31
1909	Lee Onion Flat	188	05/01 to 05/31 and 10/16 to 11/15
1915	Beaver AMP	2,057	05/01 to 10/31
1916	Hall Creek	2,294	C: 05/10 to 11/22
		34	H: 05/10 to 11/22
1917	Mazet Onion Flat	1,536	C: 04/10 to 06/30 and 10/11 to 11/30
2003	Whiskey Peak	5,430	C: 06/01 to 01/25
		2,293	S: 07/16 to 11/30
2006	46 Pasture	488	05/01 to 10/31
2013	Fenced Allotment	1,692	C: 05/16 to 09/10
		11	H: 05/01 to 11/15
1409	Muskrat Open	10,520	05/01 to 11/30
1413	Pipeline Pasture	452	12/01 to 04/30
1635	Big Rock Pasture	1,995	04/01 to 05/31 and 10/15 to 11/26
1707	Ice Slough	183	03/01 to 07/31
1709	Long Creek Pasture	427	04/01 to 09/30 and 11/16 to 12/15
1713	Whitlock Fenced	126	04/01 to 04/30
1801	East Beaver Common	5,040	C: 05/01 to 12/31
		3,308	S: 12/01 to 04/30
1805	Kirby-Reservation Boundary	734	03/01 to 06/01
1811	Lander Valley	474	05/11 to 10/31
1901	Atlantic City Common	4,460	C: 05/16 to 09/30
		373	S: 07/16 to 09/30
1903	Silver Creek Common	3,552	05/01 to 10/31
1904	Devils Canyon AMP	652	05/16 to 09/30
1906	Twin Creek Individual	1,614	C: 05/01 to 11/30
		30	H: 05/01 to 11/30
1907	Commissary Hill	74	06/01 to 09/30
1920	Salisbury AMP	996	05/16 to 09/30
2001	Green Mountain Common	28,193	C: 03/01 to 12/31
		5,634	S: 03/01 to 11/30

TABLE 6--CONTINUED

## CATEGORY I ALLOTMENTS

Allotment Number	Allotment Name	AUM's	Seasons of Use <sup>1/</sup>
2004	Green Mountain Fenced	651	05/01 to 09/30
2005	Home, South of Highway	383	05/01 to 09/30
2015	Radwell Pasture	547	05/25 to 10/31
2205	Hopkins 13	40	06/01 to 09/30
2206	Krone 17	45	05/01 to 09/15
2207	Steers 19	265	06/01 to 09/30
2210	Holy Cross 10	274	05/15 to 10/15
2211	Strube 26	258	06/01 to 08/31
2213	Spriggs 36	340	05/15 to 09/30
2214	Double A 37	233	06/01 to 09/30
2215	Wander 38	220	07/01 to 09/15
2217	Nicholas 40	48	06/01 to 09/30
2218	Double A 41	38	06/01 to 09/30
2219	Slingerland 43	124	05/10 to 06/28
2220	North Fork Land & Development	259	04/01 to 10/31
2228	Spriggs 57	18	C: 05/01 to 06/30
		6	H: 08/01 to 09/30
2232	Beason Creek 63	32	06/01 to 09/30
2236	Freeman 70	24	H: 05/01 to 09/25
2240	Harvey Basin	183	05/15 to 10/30
2209	Weed Draw		Not licensed
2222	Strube (School)	25	05/01 to 06/10
2223	Ross 51	18	06/01 to 08/31
2225	Crump 53	5	H: 10/15 to 11/15
2235	Horny Toad	35	06/01 to 08/30
2239	Cyclone Pass		Not licensed

<sup>1/</sup>C=cattle, S=sheep, and H=horses. (Season-of-use shown are for cattle, unless otherwise noted.)

<sup>2/</sup>Privately owned AUMs are exchanged for an equal amount of federally owned AUMs.

TABLE 7  
CATEGORY M ALLOTMENTS

Allotment Number	Allotment Name	AIM's	Seasons of Use <u>1/</u>
1414	Anderson Winter	770	12/01 to 04/30
1625	Jamernan Pastures	420	C: 11/01 to 05/31
		58	H: 04/01 to 11/30
1626	Winter Pastures	113	12/01 to 12/31
1627	Individual Allotment	301	10/16 to 03/31
1628	Sagehen	150	C: 05/01 to 09/30
		39	H: 05/01 to 02/28
1630	Tram Road	135	04/01 to 05/15
1632	North Hat	175	C: 03/01 to 04/30
		5	H: 06/01 to 08/31
1634	Arkansas Pasture	28	11/01 to 11/30
1637	North Allotment	165	03/01 to 06/14
1638	Winter Allotment	28	10/01 to 02/28
1660	Home, North of Highway	198	C: 05/01 to 09/30
		7	H: 04/27 to 09/30
1704	Breeding Pasture	1,717	C: 04/23 to 06/08 and 09/01 to 11/15
		239	H: 04/01 to 12/15
1706	Trent and Home Place	40	11/16 to 02/28
1710	Craham Ranch Pasture	175	11/15 to 04/30
1715	Horse Pasture	14	H: 12/16 to 03/31
1806	Beaver Creek	714	05/01 to 10/15
1808	Hudson Draw	38	06/16 to 09/15
1925	Hall Creek Winter	87	11/23 to 02/28
1931	Wooley Individual		Not licensed
1932	Sheep Mountain	103	05/10 to 06/30
1936	Came and Fish		Not licensed
2009	Alkali Pasture	47	05/01 to 09/30
2010	Rattlesnake	58	04/01 to 04/30
2012	East Allotment	377	09/11 to 11/01
2014	South Hat Pasture	287	03/01 to 04/13
2018	Alma Crieve Pasture	453	09/01 to 12/31
2019	Cooper Creek	240	09/01 to 12/31
2020	Cottonwood Pasture	265	09/01 to 10/31
2022	South Allotment	425	06/15 to 09/30
2023	Shoshan Ranch	67	10/01 to 10/31
2024	Harris Place	16	10/01 to 10/31
2025	Leckinby Pasture	607	05/01 to 10/31
2201	Dust 1	60	06/01 to 10/31
2208	Pine Bar 21	6	06/01 to 08/31

1/ C=cattle, S=sheep, and H=horses. (Seasons-of-use shown are for cattle, unless otherwise noted.)

TABLE 8  
CATEGORY C ALLOTMENTS

Allotment Number	Allotment Name	AIM's	Seasons of Use <u>1/</u>
1629	Winter Pastures	272	C: 11/01 to 04/30
		4	H: 03/01 to 02/28
1631	Clayton Homestead	6	03/01 to 03/31
1633	Stampede Bog	55	10/01 to 12/31
1702	Flagg Individual	51	12/01 to 02/28
1711	Hay Meadow Pasture	50	09/01 to 04/30
1712	Long Creek Sweetwater	66	11/01 to 04/30
1714	Scarlett Pasture	79	10/01 to 02/28
1809	Bringolf Ranch	91	11/01 to 02/28
1810	Yellowstone Ranch	92	11/01 to 12/31
1813	Blue Ridge	8	11/01 to 12/15
1912	Twin Creek Private	98	05/16 to 10/15
1923	Atlantic City Upper	81	06/01 to 10/31
1924	Atlantic City Lower	58	06/01 to 10/31
1927	Ellis Ranch	229	09/15 to 12/31
1928	Slough Lake		Not Licensed
1929	Barras Spring		Not Licensed
1930	Willow Creek		Not Licensed
1933	Lazy Y		Not Licensed
1935	Bowman Ranch		Not Licensed
1937	Little Popo Agie		Not Licensed
1938	Bergstedt Ranch		Not Licensed
1939	Auer Ranch		Not Licensed
1940	Henton Ranch		Not Licensed
2002	Harris Slough	5	04/20 to 05/19
2016	State-71 Meadows	51	05/01 to 05/31
2021	Willow Creek	15	09/01 to 09/30
2028	Mitchell Pasture	106	06/15 to 09/15
2029	Diamond Book	27	12/01 to 04/01
2202	Arnold 4	16	S: 05/01 to 07/01
2203	Ranchock 6	47	06/05 to 09/30
2204	Table Mountain	121	06/01 to 10/05
2212	Frank 28	117	05/01 to 11/01
2216	Day 39	10	05/15 to 09/30
2221	Hallam 45	40	C: 06/01 to 07/15
		30	S: 06/01 to 07/15
2224	Auer 52	54	05/01 to 08/01
2226	Oavis 54	12	06/01 to 09/30
2227	Jones 55	6	10/01 to 10/02
2229	Kaper 59	56	06/01 to 09/30
2230	Table Mountain 61	8	06/01 to 09/30
2231	Booth 62	30	C: 06/01 to 10/31
2233	Weber 64	95	H: 12/01 to 12/15
		1	



TABLE 8--CONTINUED  
CATEGORY C ALLOTMENTS

Allotment Number	Allotment Name	AUM's	Seasons of Use <u>1/</u>
2234	Sjostrom 66	18	06/01 to 07/31
2238	Deadman Gulch	4	06/01 to 09/30

1/ C=cattle, S=sheep, and H=horses. (Seasons-of-use shown are for cattle, unless otherwise noted.)

## **APPENDIX B**

### **ALLOTMENT SPECIFIC INFORMATION FOR THE GAS HILLS STUDY AREA**

**TABLE B-1**  
**CATEGORY M ALLOTMENTS**

Allotment Number	Allotment Name	Licensed AUMs	Kind of Livestock <sup>1</sup>	Season of Use
0205	Devil's Gate <sup>2</sup>	6,500	C	11/01 - 04/30
1301	Cantril Jack	628	C	08/16 - 11/30
1303	South of CB&Q R.R.	660	C	11/01 - 04/30
1306	Canning	28	C	06/01 - 11/01
1308	167A Scott-Robson	33	S	05/01 - 06/15
			S	10/15 - 12/17
1309	Logan Pasture	554	C	06/01 - 08/31
1312	North of Tracks	1440	C	02/15 - 06/15
			H	03/01 - 02/28
			C	09/01 - 12/15
1314	Moneta Hills	587	C	10/16 - 12/31
			C	02/15 - 03/31
1318	Below the Hill Pasture	78	C	04/16 - 05/31
1328	Battle Axe South	634	C	04/01 - 05/31
			C	05/01 - 08/31
1330	Battle Axe Lysite	420	S	03/19 - 04/20
			C	08/02 - 12/31
1331	Battle Axe Berger	1028	C	08/01 - 10/31
			C, H	04/01 - 01/31
1332	Bow and Arrow	159	C, H	06/01 - 09/30
1341	168A Stock Driveway	40	C	12/01 - 12/31
1348	J. Herbst Summer	308	C	06/01 - 10/15
1353	Campbell	416	C, S, H	03/01 - 02/28
1355	Lookout Hill	673	C, S	04/01 - 06/05
1357	Summer	32	C	06/15 - 07/14
1406	Scott-Robson	817	C	11/01 - 04/30
1502	Fraser Draw	5,941	C	03/01 - 10/31
			S	02/18 - 02/28
1503	Winter Pastures	5,262	C	03/01 - 06/30
			C	10/15 - 02/28
1507	South Cross L	386	C	03/10 - 06/15
1508	Gas Hills	3,547	C	03/16 - 10/31
1510	North Willow Creek	616	C	05/01 - 06/10
1511	Dobie Flat Pasture	2,814	C	05/16 - 07/07
1601	Dodds	446	S	05/01 - 10/30
1602	Oil City Pasture	10	C	05/15 - 06/15
1603	No. 15 Garfield Pasture	195	C	10/01 - 10/15
1604	No. 17 Horse Heaven Pasture	3,077	C, S	06/01 - 10/20
1605	No. 18 Horse Creek Pasture	459	C, S	10/20 - 11/30
1606	No. 19 Vinegar Hill Pasture	981	C, S	11/20 - 03/30
1607	No. 16 Phillips Pasture	259	C, S	12/28 - 03/30
1608	No. 20 Calf Pasture	130	C, S	05/01 - 06/15
1609	No. 21 Horse Pasture	168	C, H	06/01 - 09/30
1611	Boyle Pasture	100	C	06/16 - 08/31
1612	Hamilton Rock Pasture	454	C, S	12/28 - 03/01
1613	Ardic Private	261	C	03/01 - 05/01
			C	09/01 - 02/28
1614	Circle Bar	5,674	C, H	05/01 - 02/28
1615	North of Drift Fence	5,093	C	06/01 - 09/15
1616	Keester	4,582	C	05/16 - 11/18
1618	Claytor	288	C	06/01 - 09/15
1619	Winter Pastures	2,635	C	09/16 - 05/15
1621	Crane - Baber	761	C	10/01 - 04/30
2104	Warm Springs Canyon	27	C	05/16 - 09/30
2106	WM 10	8	H	05/01 - 11/30
2107	Wells 11	31	C	05/01 - 06/30
			C	08/01 - 10/31

**TABLE B-1 (Continued)**  
**CATEGORY M ALLOTMENTS**

Allotment Number	Allotment Name	Licensed AUMs	Kind of Livestock <sup>1</sup>	Season of Use
2108	Wagon Box	128	C, H	06/01 - 06/30
			C, H	09/01 - 09/30
2110	Holmes 15	51	H	04/01 - 05/30
			H	09/01 - 12/25
2111	E. A. Mountain	341	C	03/01 - 02/28
2124	Miller 46	144	C, H	05/20 - 10/15
2125	CM 49	67	H	06/01 - 06/30
			H	11/10 - 12/09

<sup>1</sup> C = Cattle, S = Sheep, and H = Horses.

<sup>2</sup> Licensed by Divide Resource Area.

**TABLE B-2**  
**FACTORS USED IN CATEGORIZATION**  
**OF CATEGORY I ALLOTMENTS**

Allotment Number	Allotment Name	Factors <sup>1</sup>							
		1	2	3	4	5	6	7	8
1304	Crawford Creek	X	X					X	X
1305	Lybyer 165 C	X				X		X	X
1313	South of Tracks	X				X		X	X
1322	St. Clair South Pasture	X						X	X
1323	Fuller	X				X		X	X
1324	George Fuller Lease	X	X	X	X	X		X	X
1325	East of Ranch	X		X		X		X	X
1326	Lichtenstein	X		X		X		X	X
1327	Myrtle Reed Lease	X	X			X	X	X	X
1329	Lysite Mountain	X			X	X	X	X	X
1333	Rate and Stewart Winter	X		X	X	X		X	X
1334	Cottonwood Pass	X	X	X		X		X	X
1335	Ocla South of R.R.	X						X	X
1336	Ocla North of R.R.	X			X	X		X	X
1338	Fuller Ranch Pasture	X						X	X
1339	Picard Private	X		X	X			X	X
1344	Westfall Pasture	X			X			X	X
1346	Thoren Winter	X				X		X	X
1347	Thoren Summer	X						X	X
1351	Scott Draw	X		X	X	X		X	X
1354	Stinking Well	X	X	X		X		X	X
1356	Howard Pasture	X	X	X		X		X	X
1402	Delfelder	X		X				X	X
1404	William Herbst Winter	X			X	X		X	X
1405	Posey North	X	X		X	X		X	X
1407	Davison AMP	X		X	X	X	X	X	X
1408	Township Pasture	X			X		X	X	X
1410	Posey Pasture	X	X		X	X		X	X
1411	Shoshoni Road	X	X	X	X	X		X	X
1416	Lame Jack Draw	X			X	X		X	X
1501	Muskrat-Linn	X			X			X	X
1504	Thompson Private	X		X		X		X	X
1505	Miles Ranch	X	X	X		X		X	X
1506	Deer Creek AMP	X						X	X
1509	Diamond Springs	X			X			X	X
1639	Ordway Pocket	X						X	X
2121	Miller R.W.	X	X		X	X		X	X
2122	Williams 34	X	X	X		X		X	X

<sup>1</sup> Factors Used in Categorization of Category I Allotments are:

1 - Ecological site inventory results indicate vegetative production is not satisfactory, key species are not present in satisfactory amounts, and species composition indicates less than satisfactory range condition.

2 - Allotment evaluation indicates utilization, trend, and condition of the vegetative resource is not satisfactory.

3 - Allotment analysis shows significant forage competition between grazing animals and indicates sufficient forage is not available to support present levels of livestock and management objective levels of other grazing animals.

4 - The distribution of grazing animals is not satisfactory. Significant problems exist around wetlands, riparian areas, and meadows.

5 - Turnout dates and season of use are not consistent with range readiness and sound range management principles.

**TABLE B-2 (Continued)**  
**FACTORS USED IN CATEGORIZATION**  
**OF CATEGORY I ALLOTMENTS**

Allotment Number	Allotment Name	Factors <sup>1</sup>							
		1	2	3	4	5	6	7	8 9

6 - Significant conflicts with other land uses are evident.

7 - Analysis of the allotment's soil survey information indicates (as per SCS Range Site Guides) potential for high productivity in the various range sites.

8 - Analysis of the allotment's vegetative composition information gathered during the ecological site inventory indicates that current vegetative productivity by range site is below the potential, as indicated by SCS Range Site Guides.

9 - There is a potential for positive economic return on public investment.



**TABLE B-3**  
**HIGH PRIORITY CATEGORY I ALLOTMENTS**

Allotment Number	Allotment Name	Licensed AUMs	Kind of Livestock <sup>1</sup>	Season of Use
1324	George Fuller Lease	2775	C, S, H	03/01 - 02/28
1329	Lysite Mountain	4118	C, S, H	03/01 - 02/28
1333	Rate and Stewart Winter	1487	C, S	11/01 - 05/10
1335	Ocla South of R.R.	912	C	12/01 - 03/31
1336	Ocla North of R.R.	608	C	04/01 - 05/15
1338	Fuller Ranch Pasture	250	C	01/01 - 02/15
1346	Thoren Winter	1396	C, H	03/10 - 12/31
1356	Howard Pasture	170	C	05/01 - 06/07
1404	Wm. Herbst Winter	397	C, H	11/01 - 06/20
1405	Posey North	429	C	04/15 - 6/20, 11/01 - 12/15
1411	Shoshoni Road	2706	S, C	03/01 - 02/28
1506	Deer Creek AMP	1210	C	05/01 - 11/01

<sup>1</sup> C = Cattle, S = Sheep, and H = Horses.

**TABLE B-4**  
**MODERATE PRIORITY CATEGORY I ALLOTMENTS**

Allotment Number	Allotment Name	AUMs	Kind of Livestock <sup>1</sup>	Season of Use
1305	Lybyer 165C	693	C	04/16 - 05/31
			C	11/01 - 11/30
1323	Fuller	413	C, H	05/16 - 03/30
1334	Cottonwood Pass	765	C, S	05/15 - 11/01
1339	Picard Private	490	C	12/01 - 02/28
1402	Delfelder	1203	S	12/01 - 04/30
1407	Davison AMP	3962	C	10/10 - 06/15
1416	Lame Jack Draw	720	C	05/01 - 09/30
1504	Thompson Private	1952	S, C	03/01 - 06/10 10/01 - 02/28
1505	Miles Ranch	1039	C	04/01 - 11/30
1509	Diamond Springs	6502	C	05/26 - 11/15
2121	Miller, R.W.	1220	C	06/01 - 10/31
2122	Williams 34	197	C	05/15 - 11/15

<sup>1</sup> C = Cattle, S = Sheep, and H = Horses.

**TABLE B-5**  
**LOW PRIORITY CATEGORY I ALLOTMENTS**

<b>Allotment Number</b>	<b>Allotment Name</b>	<b>Licensed AUMs</b>	<b>Kind of Livestock<sup>1</sup></b>	<b>Season of Use</b>
1304	Crawford Creek	269	C	06/15 - 10/14
1313	South of Tracks	1110	C	04/10 - 06/16
1322	St. Clair South Pasture	726	H	05/01 - 02/28
			C	10/15 - 12/31
1325	East of Ranch	272	S	03/01 - 05/10
1326	Lichtenstein	527	S	11/01 - 02/28
			C	03/01 - 04/15
1327	Myrtle Reed Lease	72	C	05/01 - 10/31
1344	Westfall Pasture	470	C	08/16 - 11/30
1347	Thoren Summer	1122	C, H	06/10 - 11/01
1351	Scott Draw	303	C	04/07 - 06/06
1354	Stinking Well	692	S, C	03/01 - 06/01
			S, C	11/01 - 12/10
1408	Township Pasture	2478	C	05/10 - 01/31
1410	Posey Pasture	165	C	02/15 - 05/01
1501	Muskrat-Linn	6799	C	02/15 - 12/31
1639	Ordway Pocket	592	C	03/01 - 05/31

<sup>1</sup> C = Cattle, S = Sheep, and H = Horses.

**TABLE B-6**  
**CATEGORY C ALLOTMENTS**

<b>Allotment Number</b>	<b>Allotment Name</b>	<b>Licensed AUMs</b>	<b>Kind of Livestock<sup>1</sup></b>	<b>Season of Use</b>
1302	North of CB&Q R.R.	162	C	03/01 - 04/30
1307	Mallet - Smith	24	C	07/01 - 09/30
1310	Cottonwood Pass	249	C	06/01 - 06/15
			C	10/18 - 11/01
1315	Ditch Pasture	108	C	05/01 - 05/15
1316	Spratt Winter Pasture	170	C	01/01 - 02/28
1317	Brandau	167	C	07/15 - 11/16
1319	Twidale	39	C	05/01 - 05/31
			C	10/01 - 10/31
			H	11/01 - 02/28
1320	St. Clair West	65	C	05/01 - 05/15
1321	St. Clair Ranch	89	C	11/16 - 03/31
1337	DePass Ranch	125	C	03/01 - 02/28
1340	168A North of Seeps	200	C, H	05/01 - 12/01
1342	Knapp Individual	40	C	10/10 - 11/15
1343	Tuff Creek Pasture	1270	C, H	12/01 - 08/15
1345	Mountain Pasture	232	C	06/16 - 10/15
1349	J. Herbst Tuff Creek	228	C	05/01 - 11/30
1350	Wm. Herbst Summer	60	C, H	06/16 - 10/15
1352	Joe John's Pasture	205	C, S	06/16 - 10/15
1358	Top of the Mountain	23	C	07/01 - 09/30
1360	Ruth Fuller Private	9	C, H	03/01 - 02/28
1361	V. Russell	40	C	06/10 - 10/01
1417	Haybarn Hill	1195	C	10/01 - 02/28
1610	No. 22 Bull Pasture	156	C, S	04/01 - 06/30
1620	Cabin Creek Pasture	241	C	09/01 - 11/15
2102	Finley 3	6	C	06/01 - 08/30
2103	No Lease	-	-	-
2109	Cross 14	134	C	06/01 - 09/30
2112	Bear Creek	542	C	05/01 - 06/30
			C	10/15 - 11/30
2113	Parker 20	670	C	05/01 - 06/30
			C	10/30 - 11/30
2114	Spence 23	290	C	05/01 - 12/01
2115	Johnson 25	154	C	06/01 - 06/30
			C	09/01 - 10/31
2116	Elk Ridge Southeast	21	H	06/01 - 08/31
2117	Anderson 29	90	H	03/01 - 04/30
			H	11/01 - 02/28
2119	White Pass 31	116	C	05/01 - 06/30
			C	10/01 - 11/30
2120	Parker 32	87	C	04/01 - 06/30
			C	10/01 - 10/31
2123	Winchester 42	369	C	06/01 - 10/15
2125	Albright	28	H	04/01 - 06/30
			H	10/01 - 10/31
2127	Wagon Gulch	95	C, H	06/01 - 12/10
2128	Bitterroot 60	68	H	03/01 - 11/15
2129	Wiggins Fork	40	C	05/22 - 06/05
2130	Cross	91	C	04/01 - 09/30
2132	Stoney Point 73	12	C	06/01 - 07/30
2520	Woods Basin	35	C	06/01 - 06/31

<sup>1</sup> C = Cattle, S = Sheep, and H = Horses.

## APPENDICES

AllHerd/Owner Name	Herd Refs	Number of Steers/Heads	Livestock Class	Season of Sale	Auctioneer Name	Number Sold/Quota/Barrel				Estimated Price/Quota		AllHerd Category	Long-Term Protection (Miles)		Starting Level (Steers/Alternates C)
						Final Price (Barrel)				Quota/Barrel	Price/Quota		Miles N	Miles S	
						Finalized	Not Finalized	Not Sold	Not Quota						
1353 Campbell	8,498	1	Steers	05/01-02/20	Stevens & Curtis	416	15	1,340	1,467	23	0	303	363 - 402	363 - 402	200
1354 Stirling Hill	12,495	1	Steers	05/01-02/20	Stevens & Curtis	692	363	4,802	5,051	561	9	376	481 - 495	546 - 559	352
1355 Longhorn Hill	8,561	1	Steers	05/01-02/20	Stevens & Curtis	633	472	3,831	3,338	67	0	302	562 - 588	562 - 588	309
1356 Round Pasture	3,481	1	Cattle	05/01-02/20	Curtis	130	0	536	1,015	431	0	182	135	135	17
1357 Round Pasture	3,481	1	Cattle	05/01-02/20	Curtis	130	0	536	1,015	431	0	182	135	135	17
1358 1st of the Hill	2,103	1	Cattle	03/01-02/20	Curtis	23	0	10	188	303	0	137	137	137	10
1359 1st of the Hill	2,103	1	Cattle	03/01-02/20	Curtis	5	0	80	80	0	0	137	137	137	10
1360 J. Russell	222	1	Horses	05/01-02/20	Curtis	90	0	16	112	34	0	85	0	0	4
1361 1st of the Hill	12,216	1	Steep	03/01-02/20	Curtis	1,203	155	3,166	3,300	607	0	302	590 - 594	590 - 594	463
1362 1st of the Hill	1,486	1	Horses	05/01-02/20	Curtis	10	0	1	10	79	0	10	10	10	1
1363 Round Pasture	4,303	1	Horses	05/01-02/20	Curtis	1,000	160	2,000	2,182	324	27	408	465 - 495	567 - 568	463
1364 South-Hill	20,826	1	Cattle	05/01-02/20	Curtis	1,000	1,000	1,000	1,000	23	0	182	135 - 135	135 - 135	23
1365 1st of the Hill	47,426	1	Cattle	05/01-02/20	Curtis	3,362	1,219	16,252	16,383	1,213	710	472	446 - 454	437 - 442	2,549
1366 1st of the Hill	47,426	1	Cattle	05/01-02/20	Curtis	7,430	1,000	12,000	3,400	400	209	103	1,000 - 2000	1,000 - 2000	1,117
1367 Round Pasture	2,281	1	Cattle	05/01-02/20	Curtis	10	0	10	10	1	0	10	10	10	1
1368 1st of the Hill	22,406	1	Cattle	05/01-02/20	Curtis	2,306	2,003	4,500	11,700	375	0	1427	1447 - 1457	1447 - 1457	80
1369 1st of the Hill	42,762	1	Cattle	05/01-02/20	Curtis	700	0	2,617	3,100	607	161	478	681 - 716	700 - 636	231
1370 1st of the Hill	12,216	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1371 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1372 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1373 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1374 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1375 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1376 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 - 594	463
1377 1st of the Hill	10,160	1	Cattle	05/01-02/20	Curtis	1,100	0	3,476	3,487	607	0	302	590 - 594	590 -	





**TABLE B-8**  
**PROPOSED RANGE IMPROVEMENTS - IMPROVE ALLOTMENTS**

Allotment Number	Allotment Name	Fencing (Miles)	Cattleguard (Number)	Reservoirs (Number)	Pits (Number)	Windmills, Artesian Wells, Electric Pumps (Number)	Spring Developments (Number)	Pipelines (Miles)	Troughs (Number)	Vegetation Treatments (Burning - Acres)	Vegetation Treatments (Spray - Acres)	Grazing System	Benefit-Cost Analysis
0205	Devil's Gate <sup>1</sup>	—	—	—	—	—	—	—	—	—	700 <sup>2</sup>		2.2/1
1304	Crawford Creek	—	—	—	—	—	—	—	—	—	200		.55/1
1305	Lybyer 165C	—	—	—	—	Windmill-1	—	—	—	—	—	X	—
1313	South of Tracks	—	—	—	—	—	—	—	—	—	—	—	—
1322	St. Clair South Pasture	—	—	—	—	—	—	—	—	—	—	—	—
1323	Fuller	2	—	2	—	—	5	—	—	100 <sup>3</sup>	—	X	.16/1
1324	George Fuller Lease	7-10	—	—	—	Windmill-1	—	—	—	—	100	X	.61/1
						Artesian-3	—	—	—	—	—	—	—
1325	East of Ranch	—	—	—	—	—	—	—	—	—	—	X	1.10/1
1326	Lichtenstein	—	—	—	—	Windmill-3	1	—	—	—	—	X	.09/1
1327	Myrtle Reed Lease	—	—	1	—	—	—	—	—	—	—	—	.14/1
1329	Lysite Mountain	3-5	—	2	—	Artesian-2	4	—	—	—	100	X	.65/1
1333	Rate and Stewart Winter	—	—	—	—	Artesian-1	—	—	—	—	—	X	12.64/1
1334	Cottonwood Pass	—	—	—	—	—	—	—	—	200	—	—	6.14/1
1335	Ocla South of R.R.	—	—	—	—	Electric-1 <sup>4</sup>	—	—	—	—	—	X	.29/1
1336	Ocla North of R.R.	—	—	—	—	Windmill-2	—	—	—	—	—	X	.14/1
1338	Fuller Ranch Pasture	—	—	—	—	—	—	—	—	—	—	X	.39/1
1339	Picard Private	—	—	—	—	Electric-1	—	—	—	—	—	—	.15/1
1344	Westfall Pasture	—	—	—	—	—	2	—	—	—	—	X	.62/1
1346	Thoren Winter	2	1	2	—	Electric-2 <sup>4</sup>	—	—	—	—	—	X	.21/1
1347	Thoren Summer	—	—	—	—	—	—	—	—	—	—	X	1.42/1
1351	Scott Draw	—	—	—	—	Windmill-1	—	—	—	—	—	—	.18/1
1354	Stinking Well	—	—	4	—	—	1	—	—	—	—	X	.24/1
1356	Howard Pasture	5-7	—	—	—	—	—	—	—	—	—	X	.59/1
1402	Defelder	—	—	—	—	Windmill-2	—	—	—	—	—	—	.18/1
1404	Wm. Herbst Winter	—	—	—	—	Electric-1 <sup>4</sup>	—	—	—	—	—	X	.14/1
1405	Posey North	—	—	—	—	Windmill-2	2	—	—	—	—	X	.24/1
1407	Davison AMP	—	—	—	—	Electric-2	—	—	—	—	5,000	X	.94/1
1408	Township Pasture	—	—	—	—	Electric-2 <sup>4</sup>	2	—	—	—	—	—	.16/1
1410	Posey Pasture	—	—	—	—	—	—	—	—	—	—	—	—
1411	Shoshoni Road	5-6	—	—	—	Electric-2 <sup>4</sup>	—	—	—	—	—	X	.34/1
1416	Lame Jack Draw	—	—	1	—	Windmill-1	—	—	—	—	—	—	.68/1
1501	Muskrat-Linn	—	—	—	—	Artesian-2 <sup>4</sup>	—	—	—	—	—	X	.99/1
						Windmill-1	—	—	—	—	—	—	—

**TABLE B-8 (Continued)**  
**PROPOSED RANGE IMPROVEMENTS - IMPROVE ALLOTMENTS**

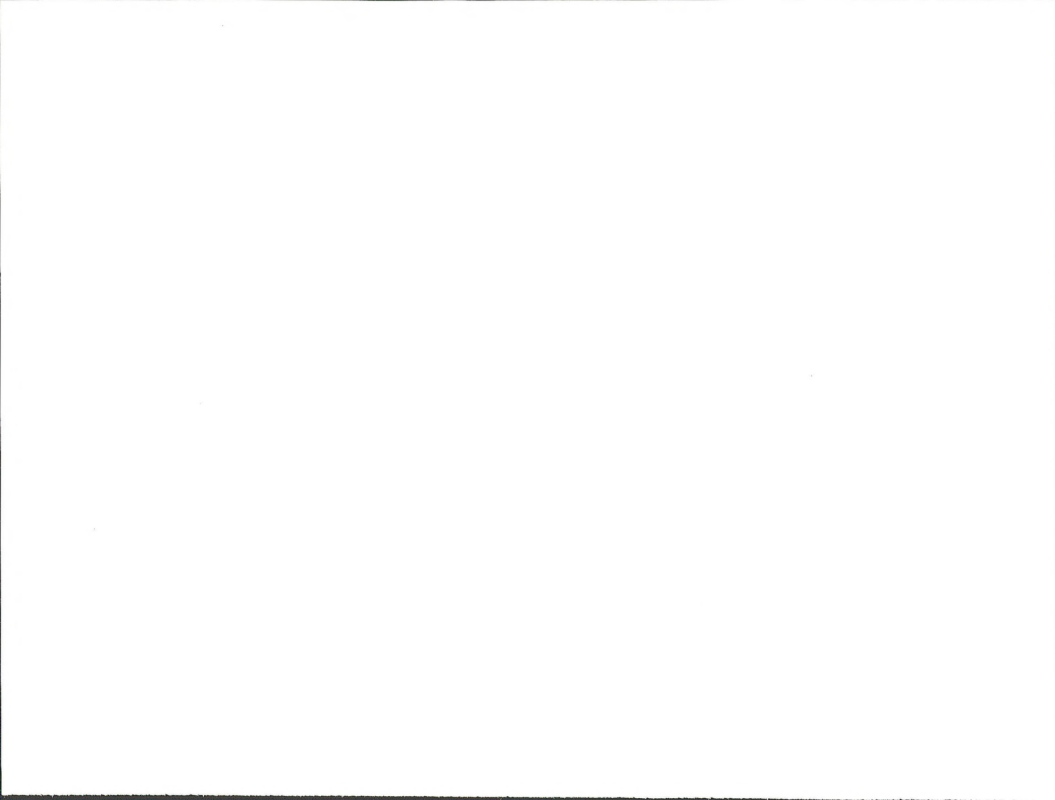
Allotment Number	Allotment Name	Fencing (Miles) <sup>1</sup>	Cattleguard (Number)	Reservoirs (Number)	Pits (Number)	Windmills, Artesian Wells, Electric Pumps (Number)	Spring Developments (Number)	Pipelines (Miles)	Troughs (Number)	Vegetation Treatments (Burning - Acres)	Vegetation Treatments (Spray - Acres)	Grazing System	Benefit-Cost Analysis
1504	Thompson Private	—	—	—	—	Artesian-1	—	—	—	—	200	X	5.07/1
1505	Miles Ranch	—	—	—	—	—	—	—	—	700	100	X	14.84/1
1506	Deer Creek AMP	—	—	—	—	—	—	—	—	—	2,500	X	1.10/1
1509	Diamond Springs	18	10	—	2	Electric-3 <sup>4</sup>	2	9 <sup>4</sup>	6	—	—	—	1.30/1
1639	Ordway Pocket	—	—	—	—	—	—	—	—	—	—	—	—
2121	Miller, R W.	3-5	—	—	—	—	1 <sup>4</sup>	3 <sup>4</sup>	4	—	—	X	1.40/1
2122	Wilfams 34	—	—	—	—	—	—	—	—	—	—	X	.67/1
<b>Totals</b>		<b>45-55</b>	<b>11</b>	<b>12</b>	<b>2</b>	<b>Windmills-14 Artesians-9 Electric-14 Total Wells-37</b>	<b>Springs-20</b>	<b>12</b>	<b>10</b>	<b>1,000</b>	<b>8,900</b>	<b>25</b>	

<sup>1</sup> Maintain allotment under stewardship program

<sup>2</sup> Crested wheat grass seeding

<sup>3</sup> Could require spraying - will need to field check

<sup>4</sup> Requires operator contribution



## **APPENDIX C**

### **SOCIOECONOMICS**

# APPENDIX C

## SOCIOECONOMICS

### COMPARATIVE ANALYSIS OF ALTERNATIVES

#### Assumptions and Assessment Guidelines

This section describes the social and economic impacts of the various Gas Hills grazing alternatives on the Lander Resource Area and local livestock operators. The discussion is limited to the impacts that would probably occur as a result of the management actions discussed in Part B - Description of the Proposed Action and Alternatives. Also, for purposes of clarity, this section utilizes comparative analysis of alternatives rather than considering each alternative separately under the respective sections of the Environmental Consequences chapter.

#### Environmental Consequences

##### Social Impacts

The type and level of social impacts will depend upon the type of changes perpetuated by the various plan alternatives. In the case of grazing alternatives, any resulting impacts will be greater for individual livestock operators than for the total region.

Any substantial, long-term curtailment of livestock grazing on public lands would cause severe social impacts to some individual livestock operators. The nature of these impacts would depend on the individual's reliance on public land for his economic well being as well as on the level and type of related changes brought about by the BLM land management actions. If the operator's dependence on public land were high, that operator would probably have to seek other income or forage sources to supplement the loss. These conditions could result in the loss of a traditional lifestyle if the operator's income subsequently were severely curtailed by cuts in herd size or higher costs of operations. A general threshold level of operator dependency that would

determine the point where serious social problems would occur is not known. However, changes related to alternatives would be coordinated with livestock operators to lessen the severity of impacts to individual operators.

In general, regional social impacts resulting from changes in BLM grazing management alternatives would be determined by how dependent regional lifestyles, employment, and income are upon the local livestock industry, as well as upon the type of grazing management changes enacted by BLM. Impacts would not be expected to be significant where only a small percentage of regional income, etc., is derived from the livestock and/or agricultural sector of the economy. In the case of Gas Hills Alternatives, no meaningful regional social impacts are anticipated because this percentage is low, as the following text will describe.

##### Economic Impacts

Precise socioeconomic impacts for a specific allotment cannot be assessed until management actions for that allotment are determined. Under management alternatives, emphasis would be placed on allotments that would provide the greatest return on investment. Therefore, most improvements would be concentrated on 1 category allotments.

Table C-1 depicts the economic impacts to small, medium, and large livestock operators from potential changes in forage availability under the various alternatives. The worst-case situations depicted on this table under Alternatives A and B represent a decrease in available forage. Conversely, the highest positive changes indicated on the table are best-case estimates for these two alternatives, and the average changes shown are the levels generally expected to actually occur for A and B. For Alternative C, only one case is proposed. This is a 40 percent decline in available AUM's.

It has been assumed for this analysis that potential percentage changes in available public forage estimated under each scenario are translated into equal percentage changes in AU's for each size ranch operation. It has also been assumed for this analysis that variable costs move in the same direction as AUM/AU changes.

**TABLE C-1**  
**LONG-TERM COMPARISON OF ALTERNATIVES FOR RANCH OPERATIONS**  
**CHANGES IN AU LEVELS RELATED TO COSTS AND RETURNS<sup>1</sup>**

Subject	Potential AU Changes (Numbers)	AU Changes Netted Against Present Levels (Numbers)	Potential Changes in in Gross Revenues (\$)	Revenue Changes Netted Against Present Levels of Gross Revenues <sup>2</sup> (\$)	Potential Changes In Variable Cost <sup>3</sup> (\$)	Potential Changes in Variable Costs Netted Against Present Levels (\$)	Fixed Costs (\$)	Total Returns to Land, Labor, and Capital <sup>10</sup> (\$)
Alternative A - Proposed Alternative								
1. Small operator <sup>5</sup>								
Possible Cases								
Worst	(4)	154	(615) <sup>6</sup>	23,658	(176) <sup>7</sup>	6,780	5,303	11,595
Best	38	196	5,838 <sup>8</sup>	30,111	1,668 <sup>7</sup>	8,604	5,303	16,204
Average	17	175	2,612 <sup>8</sup>	26,885	746 <sup>7</sup>	7,682	5,303	13,900
2. Medium Operator <sup>5</sup>								
Possible Cases								
Worst	(22)	780	(3,559) <sup>8</sup>	126,197	(1,168) <sup>9</sup>	41,422	14,262	70,513
Best	196	998	31,711 <sup>8</sup>	161,467	10,408 <sup>9</sup>	52,998	14,262	94,207
Average	87	889	14,076 <sup>8</sup>	143,832	4,620 <sup>9</sup>	47,210	14,262	82,360
3. Large Operator <sup>5</sup>								
Possible Cases								
Worst	(92)	3,200	(14,965) <sup>10</sup>	520,527	(5,752) <sup>11</sup>	200,068	32,523	287,936
Best	803	4,095	130,616 <sup>10</sup>	666,108	50,204 <sup>11</sup>	256,024	32,523	377,561
Average	356	3,648	57,907 <sup>10</sup>	593,399	22,257 <sup>11</sup>	228,077	32,523	332,799
Alternative B - Continuation of Present Management								
1. Small Operator <sup>12</sup>								
Possible Cases								
Worst	(12)	146	(1,844) <sup>6</sup>	22,428	(527) <sup>7</sup>	6,409	5,303	10,716
Best	30	188	4,609 <sup>6</sup>	28,882	1,317 <sup>7</sup>	8,253	5,303	15,326
Average	9	167	1,383 <sup>6</sup>	25,656	395 <sup>7</sup>	7,331	5,303	13,022
2. Medium Operator <sup>12</sup>								
Possible Cases								
Worst	(63)	739	(10,193) <sup>8</sup>	119,563	(3,345) <sup>9</sup>	39,245	14,262	66,056
Best	150	952	24,269 <sup>8</sup>	154,025	7,965 <sup>9</sup>	50,455	14,262	89,308
Average	43	845	6,957 <sup>8</sup>	136,713	2,283 <sup>9</sup>	44,873	14,262	77,578



**TABLE C-1 (Continued)**  
**LONG-TERM COMPARISON OF ALTERNATIVES FOR RANCH OPERATIONS**  
**CHANGES IN AU LEVELS RELATED TO COSTS AND RETURNS<sup>1</sup>**

Subject	Potential AU Changes (Numbers)	AU Changes Netted Against Present Levels (Numbers)	Potential Changes in in Gross Revenues (\$)	Revenue Changes Netted Against Present Levels of Gross Revenues <sup>2</sup> (\$)	Potential Changes in Variable Cost <sup>3</sup> (\$)	Potential Changes in Variable Costs Netted Against Present Levels (\$)	Fixed Costs (\$)	Total Returns to Land, Labor, and Capital <sup>10</sup> (\$)
3. Large Operator <sup>12</sup>								
Possible Cases								
Worst	(257)	3,035	(41,804) <sup>10</sup>	493,688	(16,068) <sup>11</sup>	189,752	32,523	271,413
Best	616	3,908	100,199 <sup>10</sup>	635,691	38,512 <sup>11</sup>	244,332	32,523	358,836
Average	178	3,470	28,953 <sup>10</sup>	564,445	11,129 <sup>11</sup>	216,949	32,523	314,973
Alternative C - Enhanced Watershed and Wildlife Habitat <sup>13</sup>								
1. Small Operator <sup>5</sup>								
Possible Case <sup>14</sup>	(63)	95	(9,679) <sup>6</sup>	14,594	(2,766) <sup>7</sup>	4,170	5,303	5,121
2. Medium Operator <sup>5</sup>								
Possible Case <sup>14</sup>	(321)	481	(51,935) <sup>8</sup>	77,821	(17,045) <sup>9</sup>	25,545	14,262	38,014
3. Large Operator <sup>5</sup>								
Possible Case <sup>14</sup>	(1,317)	1,975	(214,223) <sup>10</sup>	321,269	(82,339) <sup>11</sup>	123,481	32,523	165,265

<sup>1</sup> Base figures derived from text table 3-3 on Revenue Characteristics of Typical Small, Medium, and Large Ranches in the Lander Resource Area. The subsequent calculations assume that potential AUM changes translate into corresponding AU changes in the same percentages to all size operators by alternative.

<sup>2</sup> Present Gross Revenue Levels:

Small operators = \$24,275  
Medium operators = \$129,750  
Large operators = \$535,491

<sup>3</sup> Assumes that variable costs move in the same direction as AUM/AU changes. This is not necessarily the case. It depends on the individual operator's decisions regarding herd size and the means to compensate for potential changes in AUM's. It is not possible to guess the direction or magnitude of those decisions. Average private sector grazing fees in Wyoming in 1992 were between \$8 and \$8.50/AUM. If this is assumed to be the fee level during the life of the plan, livestock operators' expenses for leased AUM's would rise if they chose to substitute private AUM's for Federal. BLM presently charges \$1.37/AUM for its grazing leases.

Present Variable Cost Levels:

Small operators = \$6,936  
Medium operators = \$42,590  
Large operators = \$205,820

TABLE C-1 (Continued)

LONG-TERM COMPARISON OF ALTERNATIVES FOR RANCH OPERATIONS  
CHANGES IN AU LEVELS RELATED TO COSTS AND RETURNS<sup>1</sup>

<sup>4</sup> Table 3-3 shows present returns to land, labor, and capital by operator size:

Small operator = \$12,036  
Medium operator = \$72,898  
Large operator = \$297,148

<sup>5</sup> Present AU levels are as follows:

Small operator = 158  
Medium operator = 802  
Large operator = 3,292

Potential percent changes in AU levels are as follows under Alternative A: Percentages rounded to nearest decimal.

Worst Case = (2.8)  
Best Case = 24.4  
Average Case = 10.8

<sup>6</sup> Ratio of gross revenue to AU's is \$153.63/AU.

<sup>7</sup> Ratio of variable cost to number of AU's is \$43.90.

<sup>8</sup> Ratio of gross revenue to AU's is \$161.79/AU.

<sup>9</sup> Ratio of variable cost to number of AU's is \$53.10.

<sup>10</sup> Ratio of gross revenue to AU's is \$162.66/AU.

<sup>11</sup> Ratio of variable cost to number of AU's is \$62.52.

<sup>12</sup> In Alternative B, potential percent changes in AU's from present levels is as follows: Percentages rounded to nearest decimal.

Worst Case = (7.8)  
Best Case = 18.7  
Average Case = 5.4

<sup>13</sup> There is no range of changes proposed for Alternative C, only a 40.0 percent decline for livestock use.

<sup>14</sup> The potential decline in AU levels under this alternative would be 40.0 percent, corresponding to the proposed change in AUM's for livestock use.

## APPENDICES

Whether or not this would actually occur depends on individual ranch operations. For example, if a rancher decided to replace the loss of public forage with purchased feed or grazing privileges from another source, his variable costs might increase rather than decrease with the decline in public forage. However, if the operator decided to increase his herd size to take advantage of an increase in public forage, his variable costs probably would rise similar to those shown for the various sized livestock operations in text table 3-3.

It can be noted from table C-1 that for every size operation the potential negative changes in gross revenue under Alternative A are roughly one-third of what would be expected under Alternative B and less than 7 percent of those anticipated under Alternative C. Furthermore, best-case increases under Alternative A are from 25 to 30 percent higher than the best-case situation under B, and between two and three times higher than results shown for Alternative C. Likewise, looking at total returns to land, labor, and capital, operators would realize more under Alternative A than under B or C. Differences in these returns between Alternatives A and B are 5 to 10 percent, depending on the given scenario. The exact level of returns realized by any operator would depend in large part on the operation's variable costs, which are tied to the herd size maintained in response to each management scenario.

Alternative C would return between 42 and 56 percent less to land, labor, and capital than would Alternative A's worst-case scenario. It would return between 39 and 52 percent less than Alternative B's worst-case scenario. It follows that Alternative C would return substantially less than the best-case scenarios of A or B.

It should be noted that table C-1 shows economic impacts once forage adjustments have been realized under each alternative. In some situations under BLM management actions, where temporary livestock reductions are necessary to bring allotments up to full production, an operator may experience a short-term reduction in revenues during the adjustment period. However, where management actions call for permanent livestock reductions on an allotment, impacts to operators could be long term and cause the operator economic hardship, depending on his level of reliance on BLM lands.

BLM's grazing fee returns contribute to range improvement funds as well as State and Federal coffers. These returns are dependent upon availability and use of BLM's public grazing lands.

Table C-2 illustrates the potential change in grazing fee returns by alternative and fee recipient. Alternative A management actions result in the smallest worst-case declines and largest best-case potential increases in these fees. Compared with total fees collected in 1984 of \$316,000, neither Alternative A nor B scenarios would result in declines greater than 4 percent or increases over 12 percent. However, the total decline expected under Alternative C would be almost 20 percent, which translates into a drop of roughly \$30,000 in range betterment funds. The effects of such a decline in funds on range management goals and objectives depend on the relative need for range improvements under the Alternative C scenario. Since fewer AUM's are being leased under this alternative, fewer range improvements and related funds may be needed. As a result, the potential negative impacts to range betterment indicated above may not be as adverse as they appear.

**TABLE C-2**  
**GRAZING FEE RETURNS**

Subject	Potential AUM Changes <sup>1</sup> (Number)	Change in Grazing Fee Returns Proportion Distribution <sup>2</sup>			
		Total 100% (\$)	Range Betterment 50% (\$)	U.S. Treas. 37.5% (\$)	State 12.5% (\$)
Alternative A					
Worst Case	(3,196)	(4.38)	(2.19)	(1.64)	(.55)
Best Case	27,519	37.70	18.85	14.14	4.71
Average	12,161	16.66	8.33	6.25	2.08
Alternative B					
Worst Case	(8,797)	(12.05)	(6.02)	(4.52)	(1.51)
Best Case	21,089	28.89	14.45	10.83	3.61
Average	6,146	8.42	4.21	3.16	1.05
Alternative C					
Potential Case	(45,184)	(61.90)	(30.95)	(23.21)	(7.74)

<sup>1</sup> Based on AUM changes reported on Table B-7. Negative numbers are in parentheses.

<sup>2</sup> Distribution percentages and size of grazing fee of \$1.37 listed in Livestock Grazing, Chapter II. Total grazing fees collected in 1984 were \$316,000.

There are regional economic impacts associated with Alternatives A, B, and C that are outlined in table C-3. Impacts to regional business activity are the most favorable under Alternative A. Worst-case declines under this alternative of about

**TABLE C-3**  
**LIVESTOCK SECTOR AND REGIONAL ECONOMIC**  
**IMPACTS RELATED TO POTENTIAL AUM**  
**CHANGES OVER TIME BY ALTERNATIVE<sup>1</sup>**

Subject	Units	Alternative A - Proposed Alternative Estimated Range of Potential Change			Alternative B - Continue Existing Management Estimated Range of Potential Change			Alternative C - Enhance Watershed and Wildlife Habitat Estimated Potential Change
		Worst Case	Best Case	Expected Average Level	Worst Case	Best Case	Expected Average Level	Expected Level
Changes in livestock AUM's—long term <sup>2</sup>	Numbers	(3,196)	27,519	12,161	(8,797)	21,089	6,146	(45,184)
AUM changes relative to present AUM output	Percent	(2.8)	24.40	10.80	(7.80)	18.70	5.40	(40.00)
Direct change in livestock sales <sup>3</sup>	\$000	(86.20)	742.19	327.98	(237.26)	568.77	165.76	(1,219)
Indirect and induced business impacts <sup>4</sup>	\$000	(77.01)	663.07	292.98	(211.97)	508.14	148.09	(1,088)
Total business impacts <sup>5</sup>	\$000	(163.21)	1,405.26	620.96	(449.23)	1,076.91	313.85	(2,307)
Direct change in income to households <sup>6</sup>	\$000	(5.92)	50.94	22.51	(16.28)	39.04	11.38	(83.67)
Total change in regional income <sup>7</sup>	\$000	(17.30)	148.82	65.76	(47.56)	114.06	33.25	(244.43)
Direct change in employment <sup>8</sup>	Numbers	(1.0)	8.55	3.78	(2.73)	6.56	1.91	(14.05)
Direct and indirect changes in employment <sup>9</sup>	Numbers	(2.1)	18.15	8.02	(5.80)	13.91	4.05	(29.82)

<sup>1</sup> Assumes economic relationships in long term remain the same as they are in the present and no adjustments for inflation.

<sup>2</sup> Based on AUM data presented in Table B-7 which shows estimated present production at 111,895 AUM's. Negative figures are in parentheses on this table.

<sup>3</sup> Based on economic situation of average-sized operator. Determined by multiplying a ratio of 26.97/AUM times the change in AUM's. Ratio determined from data presented in Green Mountain Grazing EIS (Draft) Table 3-3. Public AUM's are estimated to be used on an average of 6 months/year.

<sup>4</sup> Result of subtracting direct change in livestock sales from total business impacts.

<sup>5</sup> Derived by multiplying change in livestock sales times Type II business multiplier 1.8934. Source: The Economy of Albany, Carbon, and Fremont counties, Wyoming, Rawlins BLM District, by John R. McKean and Joseph C. Weber, May 1983.

<sup>6</sup> Derived by multiplying .068635 times change in livestock sales. Source: Same as footnote 5, above.

<sup>7</sup> Derived by multiplying the direct change in income to households by the Type II income multiplier 2.9215. This is the ratio of direct plus indirect plus induced income to the direct income paid to households. Source: same as in footnote 5, above.

<sup>8</sup> Derived by multiplying .0115251 times each \$1,000 change in total livestock sales. This would not be an annual change but a one-time change to adjust to new (changed) AUM levels. This is the change that would occur within the livestock sector itself.

<sup>9</sup> Derived by multiplying each \$1,000 change in livestock sales times Type II multiplier .02446 which represents direct and indirect labor requirements. Source: Same as in footnote 5, above.

## APPENDICES

\$163,000 are less than half of what they would be under Alternative B, and less than a tenth of what could occur under Alternative C. Under the average (most likely) scenario, Alternative A would result in business activity increases of roughly \$620,000, or almost twice those of Alternative B. Conversely, Alternative C would likely experience a decline in activity of over \$2 million. However, when the above changes are related to the \$6 billion combined 1980 total business activity in Albany, Carbon, and Fremont counties, which comprises the Resource Area's economic region, they are not significant.

Likewise, the potential increases or decreases in livestock sales under Alternatives A, B, or C represent a very small portion of regional livestock sales, which topped \$88.6 million in 1982. Such changes would amount to less than 1 percent of regional livestock sales for Alternative A or B and less than 2 percent for Alternative C. In 1982, Fremont County alone had total livestock sales of over \$25 million. If potential changes by alternative are compared just to Fremont County, they still would not exceed 5 percent of total county livestock sales (U.S. Department of Commerce 1982).

Regional income under the best-case scenarios is potentially higher under Alternative A than under Alternatives B or C. Potential worst-case declines would approximate \$17,000 for Alternative A and just under \$50,000 for Alternative B. Declines under Alternative C would approach \$245,000. However, compared to total regional income of over \$837 million in 1980, these changes would account for less than 1 percent of regional income and have no significant regional impact.

Changes in business activity and income would occur at the time the changes in BLM forage availability became effective. Subsequent totals would be expected to remain at their new annual levels unless some changes in management activity caused new adjustments.

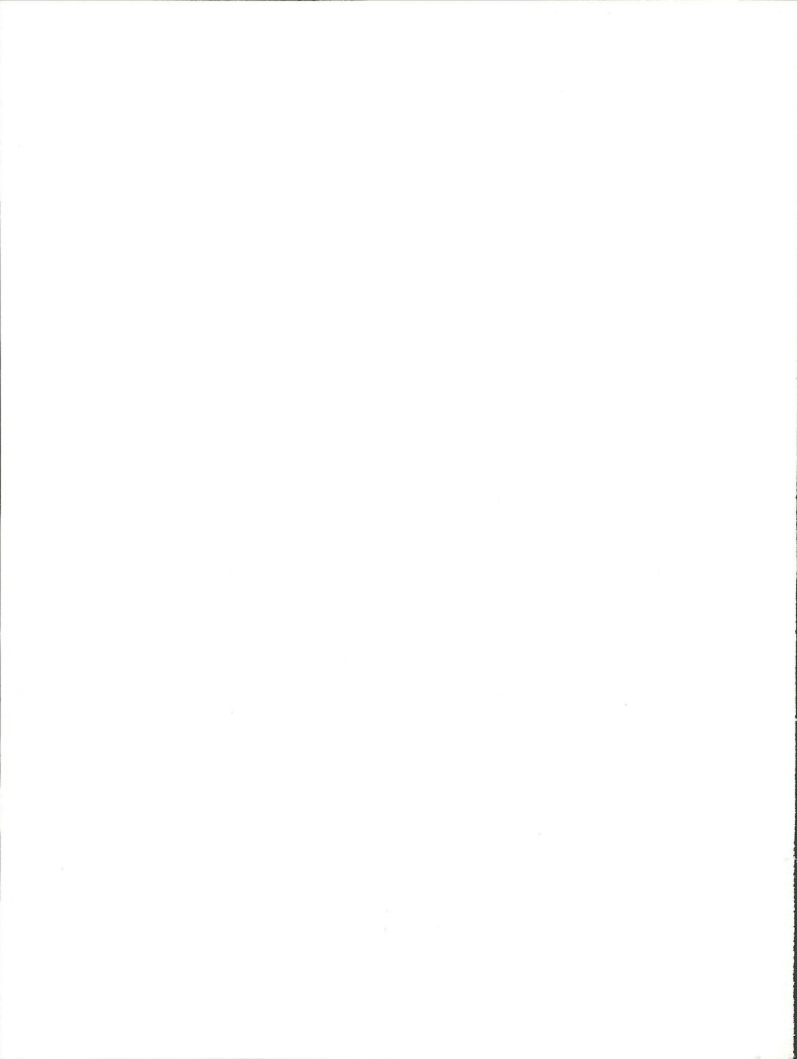
Job changes indicated on table C-3 would be one time changes, reflecting adjustments subsequent to AUM changes. The job figures presented in this table are changes in the number of jobs rather than in the changes in employees or man years. There is no indication of whether they are full- or part-time jobs. In the worst-case situation, regional job losses for Alternatives A and B would be 3 and 6, respectively, with roughly 30 for Alternative C. In 1983 total regional employment (Albany, Carbon, and Fremont counties) was about 40,274, with roughly 2,460 in the agricultural sector (Wyoming Annual Planning Report 1985).

In the best of cases, regional job increases would be about 18 under Alternative A and 14 under Alternative B. Thus, none of the alternatives are expected to have important regional impacts because resulting changes are such a small percentage of total regional employment.

Direct job impacts to the livestock sector are also seen as insignificant. Even the greatest job changes, which are specified for Alternative C, would amount to less than 1 percent of 1983's total agricultural employment. Of course, for some individual livestock operations and some localities, the above listed changes might have meaningful impacts to job holders, especially during the adjustment period. However, any changes under the various alternatives would occur over time, lessening transition impacts on local communities.







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